CLAUDIA d'AMATO CURRICULUM VITAE
updated August 16th, 2024

General Information

Name: Claudia **Surname:** d'Amato

1.2 Current Position and Qualifications

Associate Professor at Computer Science Department, University of Bari since December 21st, 2019, Scientific Sector "01/B1 - Informatics", S.S.D. INF/01 – Informatica

Qualifications:

- **Habilitation for the functions of Full Professor** - Scientific Sector "01/B1 - Informatics" on April 29th, 2021
- **Habilitation for the functions of Full Professor** - Scientific Sector "09/H1 - Information Processing Systems" on April 14th, 2021
- **Habilitation for the function of Associate Professor for the sector** "09/H1 - Information Processing Systems**"** on July 2018.

1.3 Education

Doctor of Philosophy (May 7th 2007)**:** PhD in Computer Science, University of Bari, Italy. Supervisor: Prof. Floriana Esposito, Co-Supervisor: Dr. Nicola Fanizzi.

Dissertation: "Similarity-based Learning Methods for the Semantic Web". Full marks evaluation
External Reviewers: Prof. Steffen Staab, Prof. Ernesto Damiani

Master Degree (March, 28th 2003): Master Degree in Computer Science, University of Bari. Mark 110/110 CUM LAUDE. Dissertation: "*Automatic Classification of Symbolic Objects by O-NN Algorithm with weighted distance*". Supervisors: Prof. Donato Malerba, Prof. Floriana Esposito

High School (July 1996)**:** Diploma Degree as Accountant Commercial Expert Programmer with mark 60/60 at Technical Institute for Commerce I.T.C. "A.M. TANNOIA" Corato (Bari).

2 Research Activities

2.1 Description of the Research Activity

Claudia d'Amato is associate professor at the University of Bari – Computer Science Department, since December 2019 and she got the Italian habilitation for full professorship in April 2021 (Scientific Sectors 09/H1, 01/B1). Before, she was appointed as assistant professor at the University of Bari in January 2016 and as research fellow at the University of Bari from May 2007 to December 2015. In 2007, she obtained her PhD in Computer Science, University of Bari, defending the thesis titled "Similarity Based Learning Methods for the Semantic Web" for which she got the the nomination as one of the Best Italian PhD Thesis in AI, from the Artificial Intelligence Italian Commission - AI*IA award 2005-2007.

Claudia d'Amato research activity focuses on ML methods for expressive semantic representations, with an impact on regional, national and European research projects. In particular, Claudia d'Amato has pioneered the formalization and application of Machine Learning methods to Description Logics with the final goal of improving ontology mining as used in the Semantic Web (SW). Her activity is articulated along the following lines of research developed over the years:

- definition of similarity and dissimilarity measures for expressive knowledge representation formalisms adopted in the SW and formalization of their theoretical foundation
- formalization of supervised, semi-supervised and unsupervised learning methods for ontology and KG mining, by mixing numeric and symbolic approaches
- formalization of concept learning and pattern discovery methods for ontology enrichment both at schema and instance level
- integration of inductive, deductive and uncertain reasoning for learning and reasoning over ontological knowledge bases.

Definition and theoretical foundation of similarity measures for Semantic Web representations

The notion of similarity has been active, prominent and seminal in the areas of cognitive psychology, knowledge acquisition, data management and information organization for a long time. In the last years, the importance of the notion of similarity has been highlighted also in the SW context since most of the ontology related operations such as ontology learning, alignment, ranking, population etc. are grounded on an idea of similarity. However, the definition of similarity or dissimilarity measures[1] in the SW context is a topic that has not been deeply investigated. One of the main problems is the necessity to cope with the high expressive power of Description Logics (DLs), that are the theoretical foundation of OWL that is the standard representation language in the SW, and the ability to deal with the semantics of the compared objects (concepts, individuals, ontologies), that are missing aspects in the existing works [EW15].

The research activity of Claudia d'Amato addressed the problem of assessing the similarity between concept descriptions and/or individuals in expressive DL knowledge bases (KBs). As a first solution, an extensional based approach was proposed [NC5]. Two concepts are highly similar if their concept extensions (the set of individuals that are instance of the considered concepts) largely overlap. The concepts are dissimilar if their extensions are disjoint or weakly overlap. This measure failed in comparing individuals (by preliminarily computing the Most Specif Concepts[2]

1 Since a dissimilarity measure could be obtained from a similarity measure (as argued in H.H. Bock and E. Diday. Analysis of symbolic data: exploratory methods for extracting statistical information from complex data. Springer -Verlag, 2000) only the notion of similarity measure will be considered in the following

2 The most specific concept of a given individual is the concept most specific with respect to the subsumption relationship of which the individual is instance of.

(MSC))[IW17]. This was due to MSCs so specific that most of the time they cover only the considered individuals and do not include any other individuals in their extensions. To cope with this problem, an alternative similarity measure was defined [IW17,NW5,IC37]. Grounded on the idea that concepts that are defined by almost the same sub-concepts are probably similar, the measure assessed the similarity between concept descriptions (MSCs are indeed concept descriptions) by recursively comparing the similarity of the subconcepts. This measure was defined for ALC normal form concept descriptions, and it was based both on the concept structures (since subconcepts are considered) and on the concept semantics (since subconcepts are compared by comparing their extensions). Even if these measures were able to assess the similarity between concepts and individuals, they were defined for a particular DL (ALC logic) and were not language independent. In [P2], a language independent measure for assessing the similarity between individuals was proposed. It was grounded on the intuition that, on a semantic level, similar individuals should behave similarly wrt the same concepts. Individuals were compared on the grounds of their behavior (being instance of) wrt a given set of hypotheses, that is a collection of concept descriptions acting as discriminating features expressed in DL language. As such, this measure totally depends on the semantic aspects of the individuals in the KB. In [IC19], d'Amato et al. put the influence of the ontological knowledge in assessing the semantic similarities between entities (concepts, individuals) on a solid foundation with objective criteria. The intended behavior of a semantic similarity measure when applied to ontological knowledge was discussed, hence a set of criteria that a similarity measure has to satisfy for being defined "semantic" were formalized.

Machine Learning methods for Ontology and Knowledge Graph Mining

Most of the research in the SW focuses on deductive-based reasoning methods with the goal of making explicit the knowledge that is implicitly contained in an ontology. The standard and non-standard inference procedures of DLs are the main examples in this direction. However, important tasks that are likely to be provided by new generation knowledge-based systems, such as classification, ontology construction, ontology revision, ontology population, ontology evolution can be supported by machine learning methods and specifically by inductive reasoning and learning methods[IJ4]. Moreover, any kind of deductive reasoning can be performed in presence of inconsistent KBs that is a likely case in a distributed context such as the SW. In general, inductive learning and knowledge discovery have received less attention in the SW. Moreover, in the perspective of knowledge/functionality sharing and reuse, new inference services are required, aiming at noise-tolerant and efficient forms of reasoning. From this perspective, unsupervised learning methods, such as clustering methods, and supervised learning methods, such as instance-based classification methods, applied to multi-relational domains appear well suited. Particularly similarity-based methods are known to be both very efficient and noise-tolerant. The ultimate goal of focussing on supervised and unsupervised learning techniques has been the realization of methods that are able to induce new knowledge that is not logically derivable, making possible to reason on ontologies even in presence of inconsistency and/or noise, and learning new concept descriptions for enriching existing ontologies.

In the supervised learning setting, the formalized problem was: given a DL knowledge base, classifying all the individuals of the KB: a) with respect to the concepts (primitive and defined) declared in the KB [IC35,NW1] (with final goal of performing inductive concept retrieval); b) with respect to query concepts generated on the fly, starting from the concepts declared in the ontological KB (with the final goal of performing inductive query answering) [IC27,IC24]. Existing state of the art classification algorithms such as k-NN, Reduced Coulomb Energy (RCE) network have been casted for the purpose [IJ2,IC6,IC34,IC13,IJ7]. Generally these algorithms adopt an underlying CWA and a binary classification setting. If a multi-class classification problem is considered, the classes are assumed to be disjoint. These assumptions are still not valid in the considered ontological representation where: a) the OWA is adopted; b) an individual could be instance of more than one concept (multi-class classification) at the same time and as such, classes cannot be

assumed to be disjoint. These issues were solved by decomposing the multi-class classification problem into a set of ternary classification problems (one classification for each concept) where the case of unknown information due to the OWA is explicitly treated. Additionally, the adoption of the OWA does not allow to use the classical metrics (such as predictive accuracy, precision and recall) for the evaluation of the classification results. This is because the new induced knowledge (not logically derivable) was signed as mistakes while this constitutes completely new knowledge extracted from the evidence of data. Hence alternative metrics were also defined [IC24,IJ9,IW8]. The adoption of *kernel methods*, and specifically *Support Vector Machine* (SVM) for performing class membership classification was also considered as they are well known efficient inductive learning methods. They can be developed in a modular way distinguishing between: the kernel machine and the kernel function. The kernel machine encapsulates the learning task and the way in which a solution is looked for, the kernel function encapsulates the hypothesis language, i.e., how the set of possible solutions is made up. Kernel functions can be informally defined as similarity functions that are able to work with high dimensional feature spaces. From a computational point of view, kernel methods map, by means of the kernel function, the original feature space of the considered data set into a high dimensional feature space where the execution of the learning task is easier. This is done without explicitly computing the mapped data. The kernel trick is to define a *positive definite kernel* on any feature set. For such functions it is know that there exists an embedding of the feature set in a linear space such that the kernel on the elements of the set corresponds to the inner product in this space. Particularly, SVMs are classifiers that, by the use of a mapping function, map the training data into a higher dimensional feature space where they can be classified using a linear classifier. Moving from this consideration, and exploiting the theoretical result on convolution kernel for composite objects proposed by Haussler[3], different kernel functions for DLs having different expressiveness have been defined [IC36,IC31,IC26,IC17] and plugged into a SVM for performing inductive concept retrieval and query answering [IJ9,IC17]. The experience matured in the similarity-based classification and kernel methods was exploited for focusing on the problem of resource ranking [IW15,NW3,IC7,IC9] and assessing the nature of uncertain mapping in the ontology matching process [IJ5].

Unsupervised learning methods have been investigated since their benefits in the context of semantically annotated knowledge bases are manifold. Claudia d'Amato focused on the multi-relational extensions of effective clustering techniques intended for grouping similar resources with respect to a semantic similarity measure which is tailored for the DL representations. In [IW10], a hierarchical agglomerative conceptual clustering method, exploiting the complete-link approach was proposed and intensional cluster descriptions were generated by computing the *Good Common Subsumer* of the semantic descriptions of the resources in a cluster. The ultimate goal was to improve the efficiency of the resource retrieval task by clustering the semantic descriptions of the available resources and by exploiting the obtained hierarchical structure as an index for making faster the retrieval process. In [IJ3], a similar approach has been exploited for decreasing the complexity of the deductive concept retrieval procedure by recurring, as much as possible, to the computation of the subsumption relationship and minimizing the number of instance checking (which has a higher computational complexity with respect to subsumption for expressive DLs) that are necessary for assessing the concept extension. An alternative hierarchical partitional clustering algorithm, grounded on an extension of the effective *Bisecting k-means* algorithm, was proposed in [NC2,IC32] with the goal of discovering new concepts. Since as for the original method, a fixed number k of clusters was required, further studies have been conducted for coping with this problem. A first proposed solution consisted in a partitional method where partitions are performed up to reaching a minimal threshold value for *cluster quality,* making any further bisection useless. Successively, methods grounded on the genetic algorithms [IJ10] and stochastic search [IJ8] were

3 D. Haussler. Convolution kernels on discrete structures. Technical Report UCSC-CRL-99-10, Department of Computer Science, University of California - Santa Cruz, 1999.

proposed for automatically converging towards the optimal number of clusters without predefining it and without using any threshold. In [IC25], the exploitation of clustering methods for detecting concept drift and new emerging concepts in an ontology was studied since an ontology is not a static entity, rather it may evolve over the time because new concepts and/or instances are added.

Conceptual clustering algorithms are also exploited for the concept learning task, with the ultimate goal of enriching/refining existing ontologies. In [IC25], intentional cluster descriptions of discovered groups (that are candidate new concepts) are learnt and added to the existing ontology, thus semi-automatizing the ontology refinement task. The intensional descriptions are learnt by computing the *least common subsumer* of the *most specific concepts* describing the resources (individuals) in a given cluster. For expressive DLs, the adoption of suitable refinement operators [15] for learning cluster descriptions was studied. Further approaches for performing concept learning were investigated for semi-automatizing the ontology learning and refinement[4] task. In [IC21] a FOIL-like algorithm was presented to be applied to general DL languages and the theoretical aspects of learning with the inherent incompleteness underlying the OWA was studied. In [IC12,IC5], the focused concept learning problem was solved by setting up a method for learning *decision trees* customized for DL representation. The advantage of this second approach was that the obtained terminological decision tree could be exploited for inductively classifying the individuals that are instance of the learnt concept or the target concept. A different problem was analyzed in [IC10,IC8]. The semantic aggregation of the query answering results was studied. Indeed, query answering on a wide and heterogeneous environment such as the Web can return a large number of results that can be hardly manageable by users/agents. The adoption of grouping criteria of the results could be of great help. Most of the proposed methods for aggregating results on the (Semantic) Web are mainly grounded on syntactic approaches and cannot be of significant help when the values instantiating a grouping criterion are all equal (thus creating a unique group) or at the contrary almost all different (thus creating one group for each answer). In [IC10,IC8] d'Amato et al. proposed a novel approach that is able to overcome such drawbacks. Given a query in the form of a conjunctive query, grouping is grounded on the exploitation of the semantics of background ontologies during the aggregation of the query results. Specifically, a solution where, in a deductive modality, answers are grouped taking into account the subsumption hierarchy of the underlying knowledge base was proposed. Furthermore, the inspection and navigation of the results similarly to a faceted search was also introduced.

Knowledge Graphs (KG) nowadays represent a key data management component in different domains (e.g., social data, biological interactions, bibliographical citations, and recently law). Several *open* KGs have been developed, e.g., BabelNet, DBpedia, Freebase, Wikidata, YAGO, and the seminal Linked Open Data (LOD) cloud. KGs are also key components for industrial giants such as Google, Airbnb, Amazon, Facebook, IBM, LinkedIn, Uber, to name a few. KGs can be described in a variety of formal languages, including W3C standards i.e., RDF, RDFS, OWL that are endowed with deductive reasoning capabilities. The core idea is to represent knowledge using (heterogeneous) graphs usually organized in triples (subject, predicate, object) where subject and object represent domain entities (graph nodes) and the predicate establishes a semantic relationship holding between the subject and the object (graph edges). Edges and paths capture different and potentially complex relations between domain entities that can be formally defined in ontologies. Nevertheless, KGs are often incomplete and noisy; hence significant efforts have been devoted to KG completion and refinement that have been mostly regarded as link prediction and triple/node classification tasks. In this scenario, KG Embedding resulted particularly effective and scalable. These methods convert the data graph into an optimal low dimensional space where structural graph information is preserved as much as possible. Embeddings are learned based on the constraint that a valid (positive) triple score has to be lower than the invalid (negative) triple

4 Usually with “Ontology Learning” it is intended the task of automatically building (a sketch of) an ontology having documents as source of information [52]. In this context, for ontology learning it is meant the automatic construction of (a sketch of) an ontology having semantic annotated resources as input data.

score. As KGs mainly encode positive triples, negative triples are obtained by randomly corrupting true/observed triples, thus possibly injecting false negatives during the learning process. Claudia d'Amato investigated, formalized and developed hybrid semantic embedding methods, the final goal of building more comprehensive models that can exploit the semantics of the KGs whilst setting up an informed generation of negative examples, thus limiting false negatives that random corruption may inject [J13, IC40, IC41].

Uncertain knowledge and uncertainty reasoning for the Semantic Web

Another important problem that has emerged in the last years concerns how to manage the inherent uncertainty of the Web. The importance of the problem has been highlighted by the formation of a W3C incubator group[5]. Here, with the term "uncertainty", a variety of aspects are meant such as incompleteness, vagueness, ambiguity. To face this problem several proposals have been formulated. They mainly concern with: a) how to represent uncertain knowledge and b) how to reason in presence of uncertain knowledge. These proposals are basically grounded on extending standard SW representation languages with probabilistic or fuzzy approaches. Their main drawback is its inability to scale on large set of data. Furthermore, these approaches generally assume that probabilistic and/or fuzzy information is usually available and as such, it resulted to be a quite strong assumption with respect to the reality. Only very recently some efforts in learning probabilistic ontologies have been done. Nevertheless, these works do not take into account the underlying OWA characterizing the DL representation, rather an implicit CWA is adopted.

Claudia d'Amato focused on the problem of uncertain knowledge representation and uncertainty reasoning for the SW. In this context she contributed with the formalization of a new framework for representing uncertain knowledge by the integrating Bayesian Networks with DL representation [IC18]. Specifically, a probabilistic generalization of the *DL-Lite*[6] DL integrating Bayesian networks was presented. The new probabilistic DLs allow for flexibly combining terminological and assertional pieces of probabilistic knowledge. This work shows that the new probabilistic DLs are rich enough to properly extend both the *DL-Lite* as well as Bayesian networks. Furthermore the complexity of the main reasoning operators such as satisfiability checking and query processing were also analyzed. Claudia d'Amato also investigated the *Rough-DLs* framework for representing uncertain knowledge and enriched this framework by defining two contextual discernibility relations [IW9]. Indeed in the Rough-DL framework the discernibility relations are mentioned but any practical and/or formal definition is given for them.

Claudia d'Amato also investigated how to build probabilistic knowledge bases automatically. Inductive learning methods could be fruitfully exploited for for the purpose, for instance by learning the probability that: an inclusion axiom, a relationship between two individuals, a concept assertion hold. Since the conclusions drawn from inductive reasoning are typically uncertain, this uncertainty could be explicitly treated. The probability of an inductive result (for instance an individual belonging to a concept) could be computed. The explicit treatment of the uncertain results gives several advantages: 1) a measure of the reliability of the inductive results can be given; 2) computed probabilities can be exploited for ranking the answers of a query; 3) new queries may be formulated by including the likely of an information/event; 4) probabilistic ontologies can be automatically built. In [IJ2,IC6,IC24] a way for assessing the probability that a certain concept membership hold was presented. In [IW1], a Statistical Relational Learning method designed for learning terminological naive Bayesian classifiers was defined. This method estimates the probability that a generic individual belongs to a given target concept given its membership to a set of DL concepts. The novelty of this approach is given by the explicit treatment of the lack of knowledge (due to the OWA) that is consistently handled during the learning process by considering different models about the varying nature of the missing knowledge itself.

5 http://www.w3.org/2005/Incubator/urw3/

6 *DL-Lite* is a family of tractable description logics lying between the semantic web languages RDFS and OWL Lite.

2.2 Honors and Awards

- Resources Grant for the project DIXTI: “DIgging into eXplainable soluTIons for link prediction on Knowledge Graphs using large language models” (Italian SuperComputing Resource Allocation (ISCRA) (class C project) supported by CINECA (April 2024)
- Research Grant for the Annual Financing of Individual Ground Research (2018)
- Best paper award at ACM SAC 2016 - Semantic Web and Applications (SWA) track. C. d'Amato, S. Staab, A. G.B. Tettamanzi, T.D. Minh, F. Gandon. *Ontology Enrichment by Discovering Multi-Relational Association Rules from Ontological Knowledge Bases*.
- Best Paper award at EKAW 2014. P. Minervini, C. d'Amato, N. Fanizzi and F. Esposito. *Adaptive Knowledge Propagation in Web Ontologies.*
- Best Workshop Paper award at URSW 2014 co-located with ISWC 2014. P. Minervini, C. d'Amato, N. Fanizzi, V. Tresp. *Learning to Propagate Knowledge in Web Ontologies.*
- Best Paper award at IEEE ICSC 2012. N. Fanizzi, C. d'Amato. F. Esposito. *Towards Numeric Prediction on OWL Knowledge Bases through Terminological Regression Trees.*
- Best Paper award at ACM SAC 2010 - SWA Track. F. Esposito, N. Fanizzi, C. d'Amato. *Recovering Uncertain Mappings through Structural Validation and Aggregation with the MoTo System.*
- PhD Thesis "*Similarity-based Learning Methods for the Semantic Web*" nominated by the Italian Commission for the AI*IA award 2007 as one of the Best Italian PhD Thesis in Artificial Intelligence
- Best student paper award at the Italian Symposium on Advanced Database Systems (SEBD 2007) offered by Pearson Education. C. d'Amato “*Constraint Hardness for Modeling, Matching and Ranking Semantic Web services*”.
- Scholarship (Research Grant) for three years for being a PhD student at the University of Bari (XIX Round), January 2004

2.3 Keynote Speaker and Invited Talks

Keynote Speaker at International Conferences

- November 2024 - *Knowledge Graph Refinement and Need for Semantic Aware Machine Learning and Explanations* - Keynote speaker at the 13th International Conference on Model and Data Engineering (MEDI 2024)
- 22 September 2024 - *Semantic Aware Machine Learning and Explanations for Knowledge Graphs* - Keynote speaker at the 13th International Joint Conference on Knowledge Graphs (IJCKG 2024)
- 14 November 2023 – *Semantic Aware Machine Learning for Knowledge Graphs* - Keynote speaker at the 5th Ibero-American Knowledge Graph and Semantic Web Conference joint with 4th Indo-American Knowledge Graph and Semantic Web Conference (KGSWC 2023)
- 6 September 2023 - *On the Need of Semantics when Tackling Knowledge Graph Refinement under a Machine Learning Perspective* - Keynote speaker at the 20th International Conference on Principles of Knowledge Representation and Reasoning (KR 2023 – **A* Conference** According to ICORE 2023)

- 16 June 2022 – *Machine Learning and Knowledge Graphs: Perspectives and Challenges* – Keynote speaker at International Conference on Research in Computer Science and its Applications (CNRIA 2022 - Virtual)
- 1 December 2021 - *Machine Learning for the Semantic Web: Lessons Learnt and Next Envisioned Challenges* – Keynote speaker at GDR IA Virtual Plenary Days 2021
- 2 September 2021 - *Is it Really the Time to Give Up with Semantics?* - Keynote speaker at Progic 2021: Combining Probability and Logic (Virtual)
- 15 November 2017 - *"Ontology Mining by exploiting Machine Learning for Semantic Data Management"* - Keynote speaker at the 33rd French conference on "Data Management - Principles, Technologies and Applications" (BDA 2017), Nancy, Francia.
- 7 October 2017 - *"A Machine Learning Perspective for Ontology Mining"* – Invited talk at the International Conference on Computational Approaches to Diversity in Interaction and Meaning, Isola di San Servolo, Venezia, Italia.
- 25 – 27 January 2017 – *"Machine Learning for the Semantic Web"* - Keynote speaker at the International Conference on Knowledge Extraction and Management (EGC 2017).

Keynote Speaker / Invited Talks at International Workshops

- 21 September 2021 - *Empowering Knowledge Bases: a Machine Learning Perspective* - Keynote Speaker at the 34th International Workshop on Description Logics DL 2021
- 6 July 2021 - *Machine Learning, Reasoning and Knowledge Graphs: a perspective on the usefulness of their interplay* - Keynote Speaker at the International Workshop on Reasoning on Complex and Evolving Data ROCED 2021(Virtual)
- 18 October 2014 - *"Machine Learning for Ontology Mining: Perspectives and Issues"* - Keynote speaker at the 11th OWL: Experiences and Directions Workshop (OWLED 2014)
- 9 October 2012 - *"Is the current data-driven world going to kill ontologies? Are we navigating towards a shallow Web of Data?"* - Round Table at the International Workshop on "Ontology Engineering in a Data-Driven World (OEDW 2012)" - co-located with the Int. Conference on Knowledge Engineering and Knowledge Management (EKAW 2012)
- 7 November 2007 - *"Ontologies: An Introduction"* – Invited EMBRACE Workshop

Invited Talks and Participation at Dagstuhl Seminars

- 13 – 18 July 2025 - Dagstuhl Seminar "(Actual) Neurosymbolic AI: Combining Deep Learning and Knowledge Graphs" (25291) - Dagstuhl Schloss (Talk title to be defined)
- 30 October 2023 - "*On the Need of Learning Disjointness Axioms for Knowledge Graph Refinement and for making Knowledge Graph Embedding Methods more Robust*" Dagstuhl Seminar "Approaches and Applications of Inductive Programming" (23442)
- 9 September 2018 - "*Logic and learning: Can we provide Explanations in the current Knowledge Lake?*" Dagstuhl Seminar "Knowledge Graphs: New Directions for Knowledge Representation on the Semantic Web" (18371) - Dagstuhl Schloss
- 18 September 2014 - *"On extracting Rules for: enriching ontological knowledge bases, complementing heterogeneous sources of information, empowering the reasoning process"* - Dagstuhl Seminar: "Neural-Symbolic Learning and Reasoning" - Dagstuhl Schloss
- 31 May 2012 – *"Grouping Semantic Web Query Results: Requirements and Possible Solutions"* - Seminar: "Cognitive Approaches for the Semantic Web" - Dagstuhl Schloss

- 25 July 2010 - *"(Conceptual) Clustering for discovering Concept Drift and Concept Formation from Description Logics Knowledge Bases"* - Dagstuhl Seminar: "Learning Paradigms in Dynamic Environments" - Dagstuhl Schloss

Invited Participations

- 4 – 5 July 2024: Invited Participant and Speaker for the kickoff meeting of the invitation only Network on Neurosymbolic AI for Medicine (funded by the UK Academy of Medical Sciences) – Talk on July 5th: *A perspective on Neuro-symbolic approaches for Knowledge Graph Refinement and Explanations*
- 16 – 17 September 2019: Invited Participant and Speaker for the 2019 invitation only STI2 Semantic Summit
- 4 – 5 September 2017, Invited Participant and Speaker for the 2019 invitation-only STI International Summit 2017, Heraklion, Creta

Invited Talks at International Summer Schools

- 11 July 2024: *"Machine Learning, LLMs and Knowledge Graphs"* - International Semantic Web Research summer School, Bertinoro, IT
- 13 June 2023: *"Machine Learning and Knowledge Graphs"* - International Semantic Web Research summer School, Bertinoro, IT
- 5 July 2022: *"Machine Learning and Embeddings for Large Knowledge Graphs"* - International Semantic Web Research summer School, Bertinoro, IT
- 9 September 2021: *"Mining the Semantic Web with Machine Learning: main issues that need to be known"* - Reasoning Web International Summer School (virtual) - RW 2021
- 31 August 2021: *"Machine Learning and Knowledge Graphs: possible issues to be taken into account"* - Progic 2021 International Summer School on Combining Probability and Logic (virtual)
- 2 July 2019: *"Machine Learning, Embeddings for Large Knowledge Graphs"* - International Semantic Web Research summer School, Bertinoro, IT
- 3 July 2018: *"Machine Learning, Embeddings for Large Knowledge Graphs"* - International Semantic Web Research summer School, Bertinoro, IT
- 24 January 2017: *"Mining the Semantic Web: the Knowledge Discovery Process in the SW"* - Winter School on Extraction and Knowledge Management – e-EGC'17, Grenoble, FR
- 19 July 2016: *"Knowledge Discovery for the Semantic Web under the Data Mining Perspective"* - 12th International Semantic Web Summer School (SSSW'16), Bertinoro, IT
- 8 July 2015 - *"Knowledge Discovery for the Semantic Web: Peculiarities and Main Issues"* - 11th Int. Semantic Web Summer School (SSSW 2015), Bertinoro, IT

Invited Seminars at Research Institutes

- 16 April 2024 - *"Main Issues and Solutions for Mining the Semantic Web with Machine Learning"* – Alma Mater Studiorium University of Bologna
- 17 April 2018: *"Ontology Mining by exploiting Machine Learning"* - Fondazione Bruno Kessler, Trento, IT.
- 22 April 2008: *"Inductive Reasoning on Ontologies: Similarity-Based Approaches"* - Information Engineering Department - University of Modena e Reggio Emilia, IT
- 15 October 2007 - *"Similarity-based Learning Methods for the Semantic Web"* - IRST - Istituto Trentino di Cultura, Trento, IT

- May 2006 - *"Similarity and Dissimilarity Measures for Concept Descriptions in Ontological Knowledge"* - University of Milan – Department of Information Technology (Crema), IT

Invited Seminars at Research Institutes during Invited research Stays

- 12 March 2015 – "*On extracting Rules from Ontological Knowledge Bases: Purposes and Approach"* – INRIA Sophia-Antipolis (during the invited stay)
- 19 February 2015 – "*Inductive Learning for the Semantic Web"* – INRIA Sophia-Antipolis
- 22 July 2011 - "*(Dis-)Similarity Measures for Description Logics Representation"* - Institute of Computing Science - Poznan University of Technology
- 21 July 2011 - "*(Conceptual) Clustering methods for the Semantic Web: issues and applications"* – Institute of Computer Science - Poznan University of Technology

2.4 Participation as a Speaker in International and National Conferences and Scientific Events

In the following, the summary of the activities related to direction, organization, and participation as speaker of international conferences, workshops and research events is provided. Details related to each item reported below (where only numbers are specified) can be found in Sects. 2.3, 2.6.2, 2.6.3. Paper presentations are instead reported in this section.

- Keynote Speaker / Invited Talks at international conferences: number (hereby n.) 10
- Invited Talk at International Workshops: n. 5
- Invited Talk at Dagstuhl Seminars: n. 6
- Participations to invitation-only International Summits (different to Dagstuhl seminars): n. 3
- Invited Talks at International Summer Schools: n. 10
- Invited seminars at Universities and Research Institutes: n. 5
- Invited Seminars at Research Institutes during Invited research Stays: n. 4
- General Chair for n.1 international conference (ISWC 2022)
- Program Chair for n.2 international conferences (ISWC 2017, ESWC 2014)
- Resource Track Chair for n.1 international conference (ISWC 2020)
- Journal Track Chair for n. 2 international conferences (ISWC 2019, TheWebConf 2018
- (previously known as WWW))
- Chair of n.1 International Summer School (Reasoning Web Summer School 2018)
- Doctoral consortium Chair and PhD Symposium Chair for n. 3 international conferences (ISWC 2023, ESWC 2021, ESWC 2015)
- Tutorial and Workshop Chair for n. 4 international conferences (ECAI 2020, ISWC 2012, ICSC 2012, EKAW 2012)
- Machine Learning Track Chair for n. 5 editions of international conference (ESWC 2019, 2017, 2016, 2013, 2012)
- Chair and Organizer for n. 15 International Workshops
- Steering committee member of the International Semantic Web Conference (ISWC) (2022 – today) and of the European Semantic Web Conference (ESWC) (2015 - 2018)
- Senior Program Committee Member of n. 10 highly reputed international conferences (ECAI 2024, ESWC 2024, ECAI 2023, TheWebConf 2020 (previously known as WWW), ECAI 2020, IJCAI 2019, Semantics 2015, AAAI 2015 - Track AI on the Web, ISWC 2014)

- Program Committee Member of multiple highly reputed international conferences in the Semantic Web, Machine Learning and Artificial Intelligence fields (e.g. ISWC, ECAI, IJCAI, AAAI).
- Speakers of numerous papers presented at (mostly) international conferences, international workshops, invitation only international research summits and seminars and summer schools as detailed below (starting from the past).
    - Date (dd/mm/yyyy): 24-06-2004 - A. Appice C. d'Amato, F. Esposito, D. Malerba. "Classification of Symbolic Objects: the K-Nearest Neighbour Method" - Mathematical Methods for Learning 2004, Advances in data mining and knowledge discovery (MML 2004). Como, Italia.
    - Date: 30-09-2004 - N. Fanizzi, L. Iannone, C. d'Amato, I. Palmisano, G. Semeraro "Apprendimento di Ontologie nel Web Semantico" at XLII Congresso Annuale AICA su Ricerca ed impresa: Conoscenza e produzione per la società dell'Informazione (AICA 2004). Benevento, Italy.
    - Date 22-06-2005: C. d'Amato, N. Fanizzi, F. Esposito "A semantic similarity measure for expressive Description Logics" at Convegno Italiano di Logica Computazionale (CILC 2005). Rome, Italy.
    - Date 02-10-2005: C. d'Amato, N. Fanizzi, F. Esposito "Dissimilarity Measure for Concept Descriptions in Expressive Ontology Languages" at Ontology Management workshop co-located to Ontology Management: Searching, Selection, Ranking, and Segmentation (KCAP 2005). Banff, Canada.
    - Date 15-12-2005: C. d'Amato, N. Fanizzi, F. Esposito "A Dissimilarity Measure for the ALC Description Logic" at the Italian Workshop on Semantic Web Applications and Perspectives (SWAP 2005). Trento, Italy.
    - Date 24-04-2006: C. d'Amato, N. Fanizzi, F. Esposito "A Dissimilarity Measure for ALC Concept Descriptions" at the 21st Annual ACM Symposium on Applied Computing (SAC 2006), Technical Track: Semantic-Based Resource, Discovery, Retrieval and Composition. Dijon, Francia.
    - Date 26-06-2006: N. Fanizzi, C. d'Amato "A Similarity Measure for the ALN Description Logic" at Convegno Italiano di Logica Computazionale (CILC 2006). Bari, Italia.
    - Date 04-09-2006: C. d'Amato, S. Staab "Modelling, Matching and Ranking Services Based on Constraint Hardness" at Advances in Semantics for Web services international Workshop (BPM 2006). Vienna, Austria.
    - Date 28-09-2006: C. d'Amato, N. Fanizzi "Lazy Learning from Terminological Knowledge Bases" at the 16th Int. Symposium on Methodologies for Intelligent Systems (ISMIS). Bari, Italy.
    - Date 08-11-2006: B. Taush, C. d'Amato, S. Staab, N. Fanizzi "Efficient Service Matchmaking using Tree-Structured Clustering" at the International Semantic Web Conference (ISWC 2006). Athens, Georgia, USA.
    - Date 05-11-2006: C. d'Amato, N. Fanizzi, F. Esposito "Analogical Reasoning in Description Logics" at the International Uncertainty Reasoning Workshop for the Semantic Web (SMR2 2007) co-located to the International Semantic Web Conference (ISWC 2006). Athens, Georgia, USA.
    - Date 17-06-2007: C. d'Amato "Constraint hardness for modelling, matching and ranking Semantic Web services" at the Fifteenth Italian Symposium on Advanced Database Systems. (SEBD 2007), Torre Canne, Brindisi, Italy
    - Date 19-06-2007: Fanizzi, C. d'Amato, F. Esposito "Approximate Query Answering and Ranking for Semantic Knowledge Bases" at the Fifteenth Italian Symposium on Advanced Database Systems, (SEBD 2007), Torre Canne, Brindisi, Italy

- Date 07-11-2007: INVITED SPEAKER at the EMBRACE Workshop 2007 on "Applied Gene Ontology". Bari, Italy. Title of the talk “Ontology An Introduction”.
- Date 12-11-2007: WORKSHOP CHAIR and CO-ORGANIZER of the International Uncertainty Reasoning Workshop URSW'07 co-located to the International Semantic Web Conference (ISWC'17). Busan Korea.
- Date 11-11-2007: C. d'Amato, S. Staab, N. Fanizzi, F. Esposito “Efficient Discovery of Services specified in Description Logics Languages.” At the 1st International Joint Workshop on Service Matchmaking and Resource Retrieval in the Semantic Web (SMR2 2007) co-located to the International Semantic Web Conference (ISWC 2007). Busan (Korea).
- Date 12-11-2007: N. Fanizzi, C. d'Amato, F. Esposito “Approximate Measures of Semantic Dissimilarity under Uncertainty” at the 3rd International Workshop on Uncertainty Reasoning for the Semantic Web (URSW 2007) co-locata con International Semantic Web Conference 2007. Busan – Korea.
- Date 29-11-2007: C. d'Amato, N. Fanizzi, F. Esposito “Approximate Query Answering exploiting a Dissimilarity Measure based on Local Models” at the 3rd International IFIP Workshop on Semantic Web & Web Semantics (IFIP SWWS 2007) co-located to the OnTheMove Federated Conferences (OTM '07). Albufeira - Portugal.
- Date 20-12-2007: N. Fanizzi, C. d'Amato, F. Esposito “Semantic Nearest Neighbor Search in OWL Ontologies” at the International Italian Workshop on Semantic Web Applications and Perspectives (SWAP 2007). Bari, Italy.
- Date 19-12-2007: TUTORIAL at the International Workshop on Semantic Web Applications and Perspectives (SWAP 2007) Bari, Italy. Title: “Inductive Reasoning on Ontologies and Rules for the Semantic Web”, jointly with F. Lisi, N. Fanizzi.
- Date 04-06-2008: N. Fanizzi, C. d'Amato, F. Esposito “Conceptual Clustering and its Application to Concept Drift and Novelty Detection.” at the European Semantic Web Conference (ESWC 2008). Tenerife, Spain.
- Date 04-06-2008: C. d'Amato, N. Fanizzi, F. Esposito "Query Answering and Ontology Population: an Inductive Approach" at the European Semantic Web Conference (ESWC 2008). Tenerife, Spain.
- Date 04-09-2008: N. Fanizzi, C. d'Amato, F. Esposito "Evolutionary Clustering in Description Logics: Controlling Concept Formation and Drift in Ontologies" at the 19th International Conference on Database and Expert Systems Applications (DEXA 2008). Turin, Italy.
- Date 30-09-2008: C. d'Amato, S. Staab, N. Fanizzi "On the Influence of Description Logics Ontologies on Conceptual Similarity." all' International Conference on Knowledge Engineering and Knowledge Management Knowledge Patterns (EKAW 2008). Acitrezza Catania, Italy.
- Date 26-10-2008: N. Fanizzi, C. d'Amato, F. Esposito, T. Lukasiewicz “Representing Uncertain Concepts in Rough Description Logics via Contextual Indiscernibility Relations” at the International Workshop on Uncertainty Reasoning for the Semantic Web (URSW 2008) co-located to the International Semantic Web Conference (ISWC 2008). Karlsruhe, Germany.
- Date 27-10-2008: WORKSHOP CHAIR and CO-ORGANIZER ot the International Uncertainty Reasoning Workshop URSW'08 co-located to the International Semantic Web Conference (ISWC 2008). Karlsruhe, Germany.
- Date 29-10-2008: N. Fanizzi, C. d'Amato, F. Esposito “Statistical Learning for Inductive Query Answering on OWL Ontologies” at the International Semantic Web Conference (ISWC 2008). Karlsruhe, Germany.

- Date 16-12-2008: C. d'Amato, N. Fanizzi, F. Esposito “A Note on the Evaluation of Inductive Concept Classification Procedures.” all' International Workshop on Semantic Web Applications and Perspectives (SWAP 2008). Rome, Italy.
- Date 31-05-2009: WORKSHOP CHAIR E CO-ORGANIZER dell'International Workshop on Inductive Reasoning and Machine Learning on the Semantic Web (IRMLeS'09) co-located to the European Semantic Web Conference (ESWC 2009). Heraklion, Greece.
- Date 24-10-2009: N. Fanizzi, C. d'Amato, F. Esposito “Evidential Nearest-Neighbors Classification for Inductive ABox Reasoning” at the International Workshop on Uncertainty Reasoning for the Semantic Web (URSW 2009) co-located to the International Semantic Web Conference (ISWC 2009), Washington, DC - USA.
- Date 24-10-2009: WORKSHOP CHAIR and CO-ORGANIZER of the International Uncertainty Reasoning Workshop URSW 2009) co-located to the International Semantic Web Conference (ISWC 2009). Washington, DC, USA.
- Date 25-10-2009 to 29-10-2009: VICE-CHAIR for the 8th International Semantic Web Conference (ISWC'09) Washington, DC, USA.
- Date 23-03-2010: F. Esposito, N. Fanizzi, C. d'Amato “Recovering Uncertain Mappings through Structural Validation and Aggregation with the MoTo System.” at the International ACM Symposium On Applied Computing (SAC 2010). Sierre, Swizerland.
- Date 23-03-2010: N. Fanizzi, C. d'Amato, F. Esposito “Towards the Induction of Terminological Decision Trees.” at the International ACM Symposium On Applied Computing (SAC 2010). Sierre, Swizerland.
- Date 24-03-2010: C. d'Amato, F. Esposito, N. Fanizzi, B. Fazzinga, G. Gottlob, T. Lukasiewicz. “Inductive Reasoning and Semantic Web Search.” at the International ACM Symposium On Applied Computing (SAC 2010). Sierre, Swizerland.
- Date 31-05-2010: WORKSHOP CHAIR and CO-ORGANIZER of the International Workshop on Inductive Reasoning and Machine Learning on the Semantic Web (IRMLeS'10) co-located to the European Semantic Web Conference (ESCW 2010). Heraklion, Greece.
- Date 26-07-2010: INVITED PARTICIPANTS to the INVITATION ONLY DAGSTUHL SEMINAR "Learning Paradigms in Dynamic Environments". Schloss Dagstuhl, Germania. Talk: C. d'Amato - “(Conceptual) Clustering for discovering Concept Drift and Concept Formation from Description Logics Knowledge Bases”.
- Date 24-09-2010: C. d'Amato, S. Staab, N. Fanizzi, F. Esposito “Efficient Resource Retrieval from Semantic Knowledge Bases” at the IEEE International Conference on Semantic (ICSC 2010). Pittsburgh, PA, USA.
- Date 07-11-2010: WORKSHOP CHAIR E CO-ORGANIZER dell'International Uncertainty Reasoning Workshop (URSW 2010) co-located to the International Semantic Web Conference (ISWC 2010). Shanghai, Cina.
- Date 29-05-2011: WORKSHOP CHAIR E CO-ORGANIZER of the International Workshop on Inductive Reasoning and Machine Learning on the Semantic Web (IRMLeS'11) co-located to the European Semantic Web Conference (ESCW 2011). Heraklion, Greece.
- Date 23-10-2011: WORKSHOP CHAIR E CO-ORGANIZER dell'International Uncertainty Reasoning Workshop URSW'11 co-located to the International Semantic Web Conference (ISWC 2011). Bonn, Germany.
- Date 23-10-2011: P. Minervini, C. d'Amato, N. Fanizzi “ Learning Terminological Naive Bayesian Classifiers Under Different Assumptions on Missing Knowledge” at the International Workshop on Uncertainty Reasoning for the Semantic Web (URSW

2011) co-located at the International Semantic Web Conference (ISWC 2011). Bonn, Germany.

- Date 27-05-2012 to 31-05-2012: TRACK CHAIR per "Machine Learning" alla 9th Extended Semantic Web Conference (ESWC'12). Heraklion, Crete. Greece.
- Date 28-05-2012: INVITED PARTICIPANTS to the INVITATION ONLY DAGSTUHL SEMINAR “Cognitive Approaches for the Semantic Web”. Schloss Dagstuhl, Germania. Talk: C. d'Amato - “Grouping SemanticWeb Query Results: Requirements and Possible Solutions”.
- Date 20-09-2012: N. Fanizzi, C. d'Amato, F. Esposito “Mining Linked Open Data through Semi-supervised Learning Methods based on Self-training” at the IEEE International Conference on Semantic (ICSC 2012). Palermo, Italy.
- Date 21-09-2012: N. Fanizzi, C. d'Amato, F. Esposito “Towards Numeric Prediction on OWL Knowledge Bases through Terminological Regression Trees” at the IEEE International Conference on Semantic (ICSC 2012). Palermo, Italy.
- Date 19-09-2012: WORKSHOPS CHAIR at the 6th IEEE International Conference on Semantic Computing (ICSC 2012). Palermo, Italy.
- Date 08/09-10-2012: WORKSHOPS and TUTORIALS CHAIR at the 18th International Conference on Knowledge Engineering and Knowledge Management (EKAW'12), Galway, Ireland.
- Date 12-10-2012: C. d'Amato, V. Bryl, L. Serafini “Semantic Knowledge Discovery from Heterogeneous Data Sources” at the International Conference on Knowledge Engineering and Knowledge Management Knowledge Patterns (EKAW 2012). Galway, Ireland.
- Date 09-10-2012: INVITED SPEAKER at the round table titled "Is the current data-driven world going to kill ontologies? Are we navigating towards a shallow Web of Data?" at the International Workshop on "Ontology Engineering in a Data-Driven World" (OEDW 2012) co-located to EKAW 2012. Galway, Ireland.
- Date 11-11-2012: P. Minervini, C. d'Amato, N. Fanizzi “A Graph Regularization Based Approach to Transductive Class-Membership Prediction” at the International Workshop on Uncertainty Reasoning for the Semantic Web (URSW 2012) co-located to the International Semantic Web Conference (ISWC 2012). Boston, USA.
- Date 11/12-11-2012: WORKSHOPS E TUTORIALS CHAIR for the 11th International Semantic Web Conference (ISWC 2012), Boston, USA.
- Date 26-05-2013 to 30-05-2013: TRACK CHAIR per "Machine Learning" alla 10th Extended Semantic Web Conference (ESWC'13). Montpellier, France.
- Date 25-05-2014 to 29-05-2014: PROGRAM CHAIR for the 10th European Semantic Web Conference (ESWC'14) Anissaras / Hersonissou, Crete, Greece
- Date 01-07-2014: C. d'Amato, N. Fanizzi, F. Esposito “Machine Learning Methods for Ontology Mining” al Design Semantics SIG Workshop. Valenzano - Bari, Italy.
- Date 14-09-2014 to 19-09-2014: INVITED PARTICIPANTS to the INVITATION ONLY DAGSTUHL SEMINAR “Neural-Symbolic Learning and Reasoning”. Schloss Dagstuhl, Germania. Talk: C. d'Amato - “On extracting Rules for: enriching ontological knowledge bases, complementing heterogeneous sources of information, empowering the reasoning process”
- Date 18-10-2014: KEYNOTE SPEAKER per 11th OWL: Experiences and Directions International Workshop (OWLED 2014), Riva del Garda, Italy. Talk: “Machine Learning for Ontology Mining: Perspectives and Issues”
- Date 20-10-2014: WORKSHOP CHAIR and CO-ORGANIZER dell' International Workshop on Linked Data for Information Extraction LD4IE'14 co-located to ISWC. Riva del Garda, Trento. Italy.

- Date 19-10-2014: WORKSHOP CHAIR and CO-ORGANIZER of the International Uncertainty Reasoning Workshop URSW'14 co-located at ISWC. Riva del Garda, Trento Italy.
- Date 31-05-2015: PhD SYMPOSIUM CHAIR at the 12th European Semantic Web Conference (ESWC'15), Portoroz, Slovenia.
- Date 06-07-2015: INVITED SPEAKER at the 11th International SEMANTIC WEB SUMMER SCHOOL (SSSW 2015), Bertinoro, Italy. Talk: “Knowledge Discovery for the Semantic Web: Peculiarities and Main Issues”.
- Date 06-04-2016: C. d'Amato, S. Staab, A. G.B. Tettamanzi, M. Tran Duc, F. Gandon “Ontology Enrichment by Discovering Multi-Relational Association Rules from Ontological Knowledge Bases” at the International ACM Symposium On Applied Computing (SAC 2016). Pisa, Italy.
- Date 18-07-2016: INVITED SPEAKER per la 12th SEMANTIC WEB SUMMER SCHOOL (SSSW 2016) Bertinoro (Forli Cesena), Italy. Titolo talk: “Knowlege Discovery for the Semantic Web under the Data Mining Perspective”
- Date 17-10-2016: WORKSHOP CHAIR E CO-ORGANIZER for the International Uncertainty Reasoning Workshop (URSW 2016) co-located to ISWC. Kōbe, Prefecture of Hyōgo, Japan
- Date 17-10-2016: G. Rizzo, C. d'Amato, N. Fanizzi, F. Esposito. “Induction of Terminological Cluster Trees” a International Uncratinty Reasoning Workshop (URSW 2016) co-located to ISWC 2016, Kobe, Japan.
- Date 18-10-2016: WORKSHOP CHAIR and CO-ORGANIZER for the International Workshop on Linked Data for Information Extraction LD4IE'16 co-locata in ISWC. Kōbe, Prefettura di Hyōgo, Japan
- Date 23-01-2017: INVITED SPEAKER at the 3rd Winter School é-EGC (topic "Semantic Web") co-located to (EGC 2017), Grenoble, France. Talk: “Mining the Semantic Web: the Knowledge Discovery Process in the SW”
- Date 24-01-2017: KEYNOTE SPEAKER per la 7th International Conference on Knowledge Extraction and Management (EGC 2017), Grenoble, France. Talk: "Machine Learning for the Semantic Web: filling the gaps in Ontology Mining"
- Date 30-05-2017 to 01-06-2017: "Machine Learning" TRACK CHAIR per la 14th Extended Semantic Web Conference (ESWC'17), Portoroz, Slovenia
- Date 04-09-2017 to 05-09-2017: INVITED PARTICIPANTS to the INVITATION ONLY STI International Summit 2017, Creta
- Date 08-10-2017: INVITED SPEAKER at the International Conference on Computational Approaches to Diversity in Interaction and Meaning, Isola di San Servolo, Venezia, Italy. Talk: "A Machine Learning Perspective for Ontology Mining"
- Date 21-10-2017 al 25-10-2017: PROGRAM CHAIR for the 16th International Semantic Web Conference (ISWC’17), Vienna, Austria
- Date 14-11-2017: KEYNOTE SPEAKER at the 33rd French conference on "Data Management - Principles, Technologies and Applications" (BDA 2017), Nancy, Francia. Talk: "Ontology Mining by exploiting Machine Learning for Semantic Data Management"
- Date 23-04-2018 to 27-04-2018: JOURNAL TRACK CHAIR at the International Web Conference (previously know as the International World Wide Web Conference until 2017) (WWW'18), Lyon, France.
- Date 01-07-2018: INVITED SPEAKER at the International SEMANTIC WEB RESEARCH SUMMER SCHOOL (ISWS 2018), Bertinoro, Italy. Talk: “Machine Learning for Large Knowledge Graphs”

- Date 09-09-2018: INVITED PARTICIPANTS to the INVITATION ONLY DAGSTUHL SEMINAR "Knowledge Graphs: New Directions for Knowledge Representation on the Semantic Web" (18371), Schloss Dagstuhl, Germany. Talk: "Logic and learning - Can we provide Explanations in the current Knowledge Lake?".
- Date 22-09-2018 to 25-09-2018: CHAIR per la 14th International Reasoning Web Summer School (RW 2018) - 22-25 September 2018, Luxembourg
- Date 02-06-2019 to 06-06-2019: "Machine Learning" TRACK CHAIR per la 16th Extended Semantic Web Conference (ESWC 2019), Portoroz, Slovenia.
- Date 01-07-2019: INVITED SPEAKER at the International SEMANTIC WEB RESEARCH SUMMER SCHOOL (ISWS 2019), Bertinoro, Italia. Talk: “Symbolic Machine Learning for Large Knowledge Graphs”.
- Date 16-09-2019 to 17-09-2019: INVITED PARTICIPANTS to the INVITATION ONLY STI2 International Semantic Summit 2019, Creta
- Date 29/30-08-2020: TUTORIAL CHAIR for the 24th European Conference on Artificial Intelligence (ECAI 2020) - Online
- Date 01-11-2020 to 06-11-2020: RESOURCE TRACK CHAIR per la 19th International Semantic Web Conference (ISWC 2020). Online
- Date 06/06/2021: KEYNOTE SPEAKER at the International Workshop on Reasoning on Complex and Evolving Data ROCED 2021. Talk: “Machine Learning, Reasoning and Knowledge Graphs: a perspective on the usefulness of their interplay”. Online
- Date 10/06/2021: C. d'Amato, N. F. Quatraro, N. Fanizzi. “Injecting Background Knowledge into Embedding Models for Predictive Tasks on Knowledge Graphs” at the 14th European Semantic Web Conference (ESWC 2021). Online
- Date 31/08/2021: INVITED SPEAKER at the Progic 2021 International Summer School on Combining Probability and Logic. Talk: “Machine Learning and Knowledge Graphs: possible issues to be taken into account”. Online
- Date 02/09/2021: KEYNOTE SPEAKER at Progic 2021: Combining Probability and Logic. Talk: “Is it Really the Time to Give Up with Semantics?”. Online
- Date 09/09/2021: INVITED SPEAKER at the International Reasoning Web Summer School (RW 2021). Talk: “Mining the Semantic Web with Machine Learning: main issues that need to be known”. Online
- Date 21/09/2021: KEYNOTE SPEAKER at the 34th International Workshop on Description Logics DL 2021. Bratislava, Slovakia. Talk: “Empowering Knowledge Bases: a Machine Learning Perspective”
- Date 25/10/2021: C. d'Amato, N. F. Quatraro, N. Fanizzi. “Embedding Models for Knowledge Graphs Induced by Clusters of Relations and Background Knowledge” at the 1st International Joint Conference on Learning and Reasoning (IJCLR 2021). Online
- Date 1/12/2021: KEYNOTE SPEAKER at the GDR IA Plenary Days 2021. Talk: “Machine Learning for the Semantic Web: Lessons Learnt and Next Envisioned Challenges”. Online
- Date 15/12/2021: C. d'Amato, P. Masella, N. Fanizzi. “An Approach Based on Semantic Similarity to Explaining Link Predictions on Knowledge Graphs” at the 20th IEEE/WIC/ACM International Conference on Web Intelligence and Intelligent Agent Technology (WI-IAT 2021). Online
- Date 16/06/2022: KEYNOTE SPEAKER at the International Conference on Research in Computer Science and its Applications (CNRIA 2022). Talk: “Machine Learning and Knowledge Graphs: Perspectives and Challenges”. Online

- Date 5/07/2022: INVITED SPEAKER at the International Semantic Web Research summer School, Bertinoro, Italy. Talk: “Machine Learning, Embeddings for Large Knowledge Graphs”.
- Date 13/06/2023: INVITED SPEAKER at the International Semantic Web Research summer School, Bertinoro, Italy. Talk: “Machine Learning and Knowledge Graphs”
- Date 04/09/2023: C. d'Amato, F. Benedetti, N. Fanizzi. “Efficient Explanation of Predictions on DL Knowledge Graphs through an Enhanced Similarity Search” at the International Workshop on Description Logics (DL 2023), Rhodes, Greece.
- Date 06/09/2023: KEYNOTE SPEAKER at the 20th International Conference on Principles of Knowledge Representation and Reasoning (KR 2023), Rhodes, Greece (A* concenference according to ICORE 2023). Talk: “On the Need of Semantics when Tackling Knowledge Graph Refinement under a Machine Learning Perspective”
- Date 30/10/2023: INVITED SPEAKER AND INVITED PARTICIPANT at the INVITATION ONLY DAGSTUHL SEMINAR "Approaches and Applications of Inductive Programming" (23442) - Dagstuhl Schloss, Germany. Talk: “On the Need of Learning Disjointness Axioms for Knowledge Graph Refinement and for making Knowledge Graph Embedding Methods more Robust”
- Date 07/11/2023: PhD Symposium Chair at the International Semantic Web Conference (ISCW 2023), Athens, Greece.
- Date 14/11/2023: KEYNOTE SPEAKER at the 5th Ibero-American Knowledge Graph and Semantic Web Conference joint with 4th Indo-American Knowledge Graph and Semantic Web Conference (KGSWC 2023). Zaragoza, Spain. Talk: “Semantic Aware Machine Learning for Knowledge Graphs”
- Date 11/06/2024: INVITED SPEAKER at the International Semantic Web Research summer School, Bertinoro, Italy. Talk: “Machine Learning, Large Language Models and Knowledge Graphs”
- Date 05-07-2024: INVITED SPEAKER AND INVITED PARTICIPANT at the INVITATION ONLY workshop and kickoff meeting of the Network on Neurosymbolic AI for Medicine (funded by the UK Academy of Medical Sciences), Zurich, Switzerland. Talk: “A perspective on Neuro-symbolic approaches for Knowledge Graph Refinement and Explanations”
- Date 22/09/2024: KEYNOTE SPEAKER at the 13th International Joint Conference on Knowledge Graphs (IJCKG 2024), Chongqing, China. Talk: “Semantic Aware Machine Learning and Explanations for Knowledge Graphs”
- Date 18-20/11/2024: KEYNOTE SPEAKER at the 13th International Conference on Model and Data Engineering (MEDI 2024), Naple, Italy. Talk: “Knowledge Graph Refinement and Need for Semantic Aware Machine Learning and Explanations”

2.5 Organization, Direction and Coordination of National and International Research Groups: within Research Projects and as Collaboration with International Universities and Research Institutes

In this section activities concerning Organization, Direction and Coordination as well as participation to National and International Research Groups are illustrated. Specifically, the following section illustrates the developed activities in the context of research projects of different

types. Section 2.5.2 illustrates collaborations, on various titles, with research groups within universities and international research institutes.

2.5.1 Research Projects

The Research projects to which Claudia d'Amato has been involved with are reported in the following. The various projects are grouped by categories (European, National, Regional, Local University Funding, Other Projects) and, for each of them, the role covered by Claudia d'Amato has been specified.

European

- **Role:** Invited Network Member - Involvement: WP3.1 Explainable Malware Detection
  Project: *TAILOR "Network of Excellence" for trustworthy AI* funded under the H2020-ICT-48-2020 call (2020-2023)
- **Role:** Scientific Consultant
  Project: *e-LICO "e-Laboratory for Interdisciplinary Collaborative Research in Data Mining and Data-Intensive Sciences"* (2009-2012) **(**EU-FP7 Collaborative Project Theme ICT-4.4: Intelligent Content and Semantics**)**
- **Role:** Participant
  Project: *NeOn "Lifecycle Support for Networked Ontologies"* (2006-2010) (EU-FP6 Project IST-2005-027595)
- **Role:** Participant
  Project: *COLLATE "Collaborator for Automation, Indexing and Retrieval of Digitalized Historical Archive Material"* (2000-2003) (EU-FP5-IST; Sub-program Area: Digital Preservation of cultural heritage; IST-1999-20882)
- **Role:** Participant
  Project: *ASSO "Analysis System of Symbolic Official Data"* (2001-2003) (EU-FP5; IST - 2000-25161)
- **Role:** Participant
  Project: *"SPIN: Spatial Mining on Data of Public Interest"* (2000-2002) (EU-FP5; IST-1999-10536)

National

- **Role:** Principal investigator
  Project: *Hybrid Prediction and Explanation with Knowledge Graphs (HypeKG) (PRIN 2023 - 2025) - Progetti di ricerca di Rilevante Interesse Nazionale (PRIN) – Investimento 1.1 "Fondo per il Programma Nazionale di Ricerca e Progetti di Rilevante Interesse Nazionale (PRIN)", finanziato Ministero dell'Università e della Ricerca*
- **Role:** Principal investigator for WP 6.3 "User input for Symbiotic AI systems performance" – hybrid data driven and model driven AI solutions. Spoke 6 Symbiotic AI
  Project: *Future Artificial Intelligence Research (FAIR) (PNRR 2023 - 2026) Piano Nazionale di Ripresa e Resilienza, Missione 4 Istruzione e ricerca – Componente 2 Dalla ricerca all'impresa – Investimento 1.3 "Partenariati estesi alle università, ai centri di ricerca, alle aziende per il finanziamento di progetti di ricerca di base", finanziato dall'Unione Europea – NextGenerationEU"*
- **Role:** Participant
  Project: *MAD "La Metamorfosi Additiva del Design" (PNR 2014 - 2020) Fondo per lo Sviluppo e la Coesione (PON 2017)*
- **Role:** Participant
  Project: *RPASinAir "Integrazione dei Sistemi Aeromobili a Pilotaggio Remoto nello spazio*

aereo non segregato per servizi civili innovativi" – (PNR 2015 - 2020) Research projects for industrial reseach and experimental development (PON 2017)

- **Role:** Participant
  Project: *CLOSE "Close to the Earth"* – (PNR 2015 - 2020) Resaerch projects for industrial reseach and experimental development (PON 2017)
- **Role:** Project leader for the research unit
  Project: *LOGIN "LOGistica INTegrata"* **(**2012-2015**)** (PII INDUSTRY 2015), announcement "New Technologies for the Made in Italy"
- **Role:** Participant
  Project: *"Sintesi automatica di modelli astratti a partire da dati temporali o spaziali"* (MIUR Project - PRIN 2006)
- **Role:** Participant
  Project: *MBLab"Molecular Biodiversity Lab. initiative"*(2007-2010) (FAR Project – DM 19410)
- **Role:** Technical project leader for the unit and co-author of the project proposal
  Project: *Puglia@Service - L'ingegneria dei servizi Internet-based per lo sviluppo strutturale di un territorio "intelligente"* **(**2012-2015) PON Research and Competitiveness, Op. Program 2007-2013
- **Role:** Technical project leader for the unit and co-author of the project proposal
  Project: *VINCENTE "Virtual collective INtelligenCe ENvironment to develop sustainable Technology Entrepreneurship ecosystems"* (2012-2015) PON Research and Competitiveness, Operative Program 2007-2013
- **Role:** Project leader for the research unit
  Project: *DIPIS: strategic project "Distributed Production as Innovative System"* Financed by Apulia Region in the context of the Agreement with MIUR and MISE (2007-2011)
- **Role:** Participant
  Project: *"Metodi e Tecniche di apprendimento automatico per il Semantic Web"* (MURST Project ex 40%)

Regional

- **Role:** Principal Investigator
  Project: *FIR – Future In Research, "Computer-mediated collaboration in creative projects"* (Regional Project 2016-2019)
- **Role:** Project leader and main author of the proposal
  Project: *Semantic-PA: "Tecnologie di Semantic Web per la Pubblica Amministrazione"* acquired by Claudia d'Amato (Regional Project 2009-2011)
- **Role:** Participant
  Project: *DDTA: "Distretto digitale a supporto della filiera produttiva del tessile – abbigliamento"* (Regional Project 2006-2008)

University Funding

- **Role:** Principal Investigator of the Computer Science Research Unit
  Project: *PREJUST4WOMEN: "PREdictive JUStice for WOMEN"* (Horizon Europe Seeds (europeseeds@uniba) - Competitive Call for Ateneo Project 2020 for interdisciplinary projects)
- **Role:** Participant
  Project: *Metodi di Apprendimento Scalabili per Basi di Conoscenza Strutturata* (Ateneo Project - Università degli Studi di Bari ex 60% 2017/2018)

- **Role:** Principal Investigator
  Project: *Scoperta di pattern di conoscenza da sorgenti di dati annotati semanticamente* (Ateneo Project - Università degli Studi di Bari ex 60% 2015/2016)
- **Role:** Leader
  Project: Winner for the ordinary university assignment of funds for the research support (Ateneo assignment 2015/2016)
- **Role:** Participant
  Project: *"Metodi induttivi per la predizione di relazioni su basi di conoscenza ontologiche"* (Ateneo Project - Università degli Studi di Bari ex 60% 2010)
- **Role:** Participant
  Project: *"Metodi e Tecniche di Semantic Web Mining"* (Ateneo Project - Università degli Studi di Bari ex 60% 2009)
- **Role:** Participant
  Project: *"Apprendimento Automatico di conoscenza in forma ontologica in Logiche del primo ordine"* (Ateneo Project - Università degli Studi di Bari ex 60% 2007)
- **Role:** Participant
  Project: *"Modelli computazionali di Apprendimento Automatico per formalismi ibridi del 1° ordine"* (Ateneo Project - Università degli Studi di Bari ex 60% 2006)
- **Role:** Participant
  Project: *"Apprendimento induttivo per la annotazione automatica su base semantica di documenti"* (Ateneo Project - Università degli Studi di Bari ex 60% 2005)
- **Role:** Participant
  Project: "Astrazione e Logica descrittiva in Apprendimento Automatico" (Ateneo Project - Università degli Studi di Bari ex 60% 2004)

Other Projects

- **Role:** Principal Investigator
  Project: *DIXTI: "DIgging into eXplainable soluTIons for link prediction on Knowledge Graphs using large language models"* (Italian SuperComputing Resource Allocation (ISCRA) (class C project) supported by CINECA (Grant received on April 2024)

2.5.1.1 Referee Service for Project Proposals

- 3IA Côte d'Azur Institute – Call 2023 for AI Chair of the interdisciplinary AI institute • 3IA Côte d'Azur
- Czech Science Foundation (main public funding agency in the Czech Republic supporting all areas of basic research) – Call 2018 - Technical Sciences Area
- Agence Nationale de la Recherche (ANR) – French National Research Agency dal 29-03-2017 al 12-04-2017 (Only short proposal submitted. The long version of the project proposal has no more been submitted by the authors)
- European Research Council (ERC) Advanced Grants 2016 dal 29-11-2016 al 29-12-2016
- National Fund for Scientific and Technological Development (FONDECYT) of the Chilean National Commission for Scientific and Technological Research (CONICYT) – Call 2014
- European Coordinated Research on Long-term Challenges in Information and Communication Sciences & Technologies ERA-NET (CHIST-ERA) Call 2013 – topic "Adaptive Machines in Complex Environments"

2.5.2 Research Activities at Foreign Research Institutes

In this section, invited research collaborations as well as additional research collaborations, on various capacities, with others international research groups and organizations are reported.

2.5.2.1 Invited Research Stays

- **January – March 2015:** ***invited researcher***[7] at INRIA - Research Center of Sophia-Antipolis (France) - Wimmics research team, working with Dr. Fabien Gandon (leader of the research team) and Prof. Andrea G. B. Tettamanzi.
- **October 2013:** ***invited researcher*** at University of Poznan (Poland) - Laboratory of Operational Research and Artificial Intelligence, Institute of Computing Science working with Dr. Agnieszka Lawrynowicz
- **March – April 2013:** ***invited researcher*** at the University of Koblenz-Landau (Germany) working with Prof. S. Staab, head of WeST- Institute of Web Science and Technologies
- **September – October 2012:** ***invited researcher*** **at** University of Oxford – Department of Computer Science for working with Prof. Thomas Lukasiewicz
- **March – May 2012:** ***invited researcher*** at Fondazione Bruno Kessler (FBK) research organization (Trento), Data & Knowledge Management (DKM) unit working with Dr. Luciano Serafini (head of the unit)
- **June 2011:** ***invited researcher*** at University of Poznan (Poland) - Laboratory of Operational Research and Artificial Intelligence, Institute of Computing Science working with Dr. Agnieszka Lawrynowicz
- **February – April 2008:** ***invited researcher*** at the University of Koblenz-Landau (Germany) working with Prof. Steffen Staab, head of WeST- Institute of Web Science and Technologies
- **February – May 2007:** ***invited researcher*** at the University of Koblenz-Landau (Germany) working with Prof. Steffen Staab, head of WeST- Institute of Web Science and Tech.
- **January – June 2006:** ***visiting researcher*** at the University of Koblenz-Landau (Germany) working with Prof. S. Staab, head of WeST- Institute of Web Science and Technologies

The outcomes of these invited research stays have been:

a) publications, in international journals and/or in proceedings of international conferences (see Section “Publications”)
b) research projects with involvements in various capacities (see Section “Research Projects”)

2.5.2.2 Participation in International Research and Scientific Interest Groups

Scientific Interest Groups and Associations

- **Invited Member of** the Network on Neurosymbolic AI for Medicine (funded by the UK Academy of Medical Sciences) (November 2023 – today)
- **Invited Member of** the Semantic Web Science Association (SWSA) (October 2022 - today)

7 **The expression “invited researcher” is used for indicating research collaborations having salary and travel costs paid by the hosting university. This applies to all invited research stay cases.**

- **Invited Member for** the Knowledge Representation and Reasoning working group of the Technical Committee on Artificial Intelligence of the International Federation for Information Processing (IFIP) (2015 - today)
- **Invited Expert for** the W3C Uncertainty Reasoning for the World Wide Web Incubator Group (2007-2009)
- **Invited Member for** the IEEE "Semantic Web" Task Force
- Member for the Soft Computing Working Group within CINI (Consorzio Interuniversitario Nazionale per l'Informatica) (July 2022 – today)

Research Groups

Claudia d'Amato has/had scientific collaborations with the following research institutes. For each research institute the main contact person is specified:

- University of California Santa Cruz – USA (Prof. Lise Getoor),
- Siemens/Ludwig Maximilian University of Munich - Germany (Dr. Daria Stephanova, Prof. Volker Tresp),
- University of London – UK (Prof. Ernesto Jiménez-Ruiz)
- George Mason University - USA (Prof. Kathryn Blackmond Laskey),
- University of Bamberg, Germany (Prof. Ute Schmid),
- MITRE corporation - USA (Ken Laskey),
- National University of Ireland, Galway / IT Dept & DERI - IE (Dr. Matthias Nickles),
- CNR STLab - Rome (Prof. Aldo Gangemi and Prof. Valentina Presutti), currently University of Bologna
- University of Cape Town – South Africa (Dr. Maria Keet),
- University of Mannheim - Germany (Prof. Heiner Stuckenschmidt, Prof. Heiko Paulheim),
- University of Economics - Czech Republic (Prof. Vojtech Svatek),
- University of Zurich - Switzerland (Prof. Abraham Bernstein),
- Swiss Federal Institute for forest, snow and landscape research (WSL) – Switzerland (Prof. Rolf Grutter, Dr. Bettina Waldvogel)
- Technical University of Vienna – Austria (Prof. Axel Polleres, Prof.. Marta Sabou)
- Technical University of Dresden – Germany (Prof. Sebastian Rudolph),
- Université de Lorraine, Nancy - France (Prof. Mathieu D'Aquin)
- University of Calabria – Italy (Prof. Bettina Fazzinga),
- Kansas State University – USA (Prof. Pascal Hitzler),
- University of California – USA (Prof. Krzysztof Janowicz), currently University of Vienna UCSB
- University of Passau – Germany (Siegfried Handschuh),
- University of Fribourg - Switzerland (Prof. Philippe Cudré-Mauroux)
- University of Liverpool – UK (Prof. Valentina Tamma)
- FIZ Karlsruhe - Leibniz Institute for Information Infrastructure and Karlsruhe Institute of Technology, Institute of Applied Informatics and Formal Description Methods (AIFB) - Germany (Prof. Harald Sack)
- Linköping University – Sweden (Prof. Eva Blomqvist),
- Weizenbaum Institute, Berlin – Germany (Prof. Bettina Berendt)
- Jozef Stefan Institute – Slovenia (Prof. Dunja Mladenic, Prof. Marko Grobelnik)
- Universidad Politécnica de Madrid – Spain (Prof. Oscar Corcho, Prof. Asunción Gómez Pérez, Dr. Mari Carmen Suárez-Figueroa)

Fellowships

- **Member of** the CINI Working group on Soft Computing (2022 – today)

- **Member of** the ACM Special Interest Group on Applied Computing (2006, 2010, 2016)
- **Member of** Design Semantics, Special Interest Group of the International Association for Ontology and its Applications (IAOA) (2015)
- **Member of GRIN:** Italian Group for Professors in Computer Science (2018 – present)
- **Member of GULP:** Italian Group of Res. and Users of Logic Programming (2005)
- **Member of AI*IA:** Italian Ass. for Artificial Intelligence (2007, 2008, 2010, 2021)
- **Member of AICA**: Italian Ass. for Informatics and Machine Calculus (2004, 2005)

2.6 Professional Services

2.6.1 Editorial Boards of international Journals

- **Editorial Board Member of**
  - Transactions on Graph Data and Knowledge (TGDK) Journal – (January 2023 – today – Associate Editor)
  - Neurosymbolic Artificial Intelligence Journal (NAI) – (2022 – today)
  - Semantic Web Journal **(**SWJ) - (2009 - today)
  - International Journal of Web Semantics (JWS) - (2014 – today – Area Editor)
  - Frontiers in Big Data and Artificial Intelligence Journal - Machine Learning and Artificial Intelligence (2018 - today)
  - Future Internet International Journal (2020 - today)
  - Applied Intelligence (APIN) - The International Journal of Research on Intelligent Systems for Real Life Complex Problems (2019 – today – Review Board Member)
  - International Journal on Semantic Web and Information Systems (IJSWIS) - (2014 - today)
  - International Journal on Advances in Intelligent Systems (IARIA Journals) - (2012 - today)
  - International Journal of Intelligent Systems and Applications (IJISA) - (2009 - today)
- **Guest editorships**
  - Semantic Web Journal – Special Issue on Machine Learning for Knowledge Base Generation and Population (June 2016 - 2019)
  - the International Journal on Semantic Web and Information Systems - Special Issue on Induction on the Semantic Web (2010 - 2011)
  - Semantic Web Journal - Special Issue on Inductive Reasoning and Machine Learning for the Semantic Web (2010-2012)
- **Books Reviewer**
  - G. Tecuci, D. Marcu, M. Boicu, D.A. Schum. Knowledge Engineering: Building Cognitive Assistants for Evidence-based Reasoning. Cambridge University Press (Ch. 1, 6 – 8) (2016)

2.6.2 Coordination and Organization of Research Events

- **General Chair** of the 21st International Semantic Web Conference (ISWC 2022)
- **Program Chair** of
  - the 16th International Semantic Web Conference (ISWC 2017)
  - the 10th European Semantic Web Conference (ESWC 2014)

- **Resources Track Chair** of the 20th International Semantic Web Conference (ISWC 2020)
- **Doctoral Consortium Chair** at the 22nd Int. Semantic Web Conference (ISWC 2023)
- **PhD Symposium Chair** at
  - the 17th European Semantic Web Conference (ESWC 2021)
  - the 11th European Semantic Web Conference (ESWC 2015)
- **Tutorial Chair at** the 24th European Conference on Artificial Intelligence (ECAI 2020)
- **Workshops and Tutorials Chair at**
  - the 11th International Semantic Web Conference (ISWC 2012)
  - the 18th International Conference on Knowledge Engineering and Knowledge Management (EKAW'12)
- **Workshop Chair at** the 6th IEEE Int. Conference on Semantic Computing (ICSC 2012)
- **Journal Track Chair** at**:**
  - the 19th International Semantic Web Conference (ISWC 2019)
  - the International Web Conference (TheWebConf 2018) (previously known as International World Wide Web (WWW) Conference until 2017)
- **Vice-Chair of the** 8th International Semantic Web Conference (ISWC'09)
- **Track Chair for:**
  - "Machine Learning" track at the 12th Extended Semantic Web Conference (ESWC'19)
  - "Machine Learning" track at the 10th Extended Semantic Web Conference (ESWC'17)
  - "Machine Learning" track at the 9th Extended Semantic Web Conference (ESWC'16)
  - "Machine Learning" track at the 9th Extended Semantic Web Conference (ESWC'13)
  - "Machine Learning" track at the 8th Extended Semantic Web Conference (ESWC'12)
- **Chair of the 14th International Reasoning Web Summer School** 2018, Esch-sur-Alzette, Luxembourg. 22 – 26 Settembre 2018
- **Organizing Committee Member of**
  - the International Workshop on Linked Data for Information Extraction at ISWC (LD4IE'16, LD4IE'15, LD4IE'14, LD4IE'13)
  - the International Uncertainty Reasoning Workshop at ISCW (URSW'16, URSW'15, URSW'14, URSW'13, URSW'11, URSW'10, URSW'09, URSW'08, URSW'07)
  - the International Workshop on Cross-fertilizing diverse Domains with and within the Semantic Web at ISWC (Diversity++'15)
  - the Int. Work. on Linked Data for Knowledge Discovery ECML/PKDD (LD4KD'15)
  - the Int. Workshop on Data Mining on Linked Data at ECML/PKDD (DMoLD'13)
  - the International Workshop on Inductive Reasoning and Machine Learning on the Semantic Web at ESCW (IRMLeS'11, IRMLeS'10, IRMLeS'09)
- **Publicity Chair for** Discovery Science International Conference (DS'16)

2.6.3 Program Committees

- **Steering Committee Member of the International Semantic Web Conference** (ISWC'24, ISWC'23**)**

- **Steering Committee Member of the European Semantic Web Conference** (ESWC'17, ESWC'16, ESWC'15**)**

- **Senior Program Committee Member of:**
  - European Conference on Artificial Intelligence (ECAI 2024, 2023, 2020)
  - European Semantic Web Conference (ESWC 2024, ESWC 2023)
  - International Web Conference - Semantics and Knowledge Track (TheWebConf 2023, TheWebConf 2022, TheWebConf 2021, TheWebConf 2020 previously known as WWW)
  - International Semantic Web Conference (ISWC 2021)
  - International Joint Conference on Artificial Intelligence (IJCAI 2019)
  - International Conference on Semantic Systems (SEMANTiCS'15)
  - Conference on Artificial Intelligence (AAAI-15) - Track on AI and the Web
  - Int. Semantic Web Conference (ISWC'14) - Replication, Benchmark and Data Track

- **Program Committee Member of**

  International Conferences:
  - International Conference on Artificial Intelligence (AAAI'25, AAAI'24, AAAI'18, AAAI'15 - AAAI'13 - AI and the Web: Special Track, AAAI'12 - AI and the Web: Special Track, AAAI'10)
  - International Web Conference (TheWebConf 2024 – TheWebConf 2011) (previously International World Wide Web (WWW) Conference)
  - International Joint Conference on Artificial Intelligence (IJCAI 2024 – IJCAI 2011)
  - ACM International Conference on Information and Knowledge Management (CIKM 2024 – CIKM 2020)
  - European Conference on Artificial Intelligence (ECAI 2024 – ECAI 2018, ECAI 2012 – ECAI 2010)
  - International Semantic Web Conference (ISWC 2024 – ISWC 2008)
  - European Semantic Web Conference (ESWC 2024 – ESWC 2011)
  - IEEE International Conference on Semantic Computing (ICSC 2024 – ICSC 2012)
  - Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD 2024)
  - International Conference on Legal Knowledge and Information Systems (JURIX 2024 – JURIX 2018)
  - International Joint Conference on Rules and Reasoning (RuleML+RR 2024, RuleML+RR 2023)
  - International Conference on Knowledge Engineering and Knowledge Management by the Masses (EKAW 2024 – EKAW 2010)
  - Intern. Conf. on Neural-Symbolic Learning and Reasoning (NeSy 2024, NeSy 2023)
  - International Conference on Web Intelligence (WI 2023 – WI 2021, WI 2018, WI 2014 – WI 2009)
  - SIAM International Conference on Data Mining (SDM'23)
  - International Conference on Artificial Intelligence and Law (ICAIL 2023 – ICAIL 2019)
  - International Conference on Knowledge Capture (K-CAP 2023 – K-CAP 2013)
  - ACM International Symposium On Applied Computing (SAC 2023 – SAC 2010) - Semantic Web and Application track (SWA 2023 – 2010), Knowledge Representation and Reasoning track (KRR 2023, 2019, KRR 2017), Knowledge Graph track (KG 2022)
  - International Conference on Discovery Science (DS 2023, DS 2020, DS 2019)
  - International Conf. on Uncertainty in Artificial Intelligence (UAI 2022 – UAI 2021)
  - International Conference on Foundations, Applications, and Theory of Inductive Logic (FATIL 2022)

- International Conference on Principles of Knowledge Representation and Reasoning (KR 2021)
- International Joint Conference on Knowledge Graphs 2021 (IJCKG 2021)
- IEEE International Conference on Artificial Intelligence and Knowledge Engineering (AIKE'21, AIKE'20, AIKE'19)
- Intern. Joint Conf. on Neural Networks (IJCNN 2020, IJCNN 2018 – IJCNN 2014)
- International Conference of the Italian Association for Artificial Intelligence (AI*IA 2020, AI*IA 2018)
- European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD 2019 - ECML/PKDD 2015, ECML/PKDD 2010, ECML/PKDD 2009)
- Intern. Symposium on Methodologies for Intelligent Systems (ISMIS'18, ISMIS'17)
- IEEE International Conference on Emerging Technologies (ICET 2018)
- International ACM Web Science Conference (WebSci 2017, WebSci 2016)
- International SEMANTiCS conference (SEMANTiCS 2017 – SEMANTiCS 2014)
- International Conf. on Man-Machine Interactions (ICMMI'17, ICMMI'15, ICMMI'13)
- International Web Rule Symposium: Research Based and Industry Focused (RuleML 2016 – RuleML 2009)
- International Conference of the Florida Artificial Intelligence Research Society - Uncertain Reasoning Special Track (FLAIRS 2016 – FLAIRS 2014)
- IEEE Int. Conf. on Internet of Things (iThings'15, iThings'13 – Intel. Manag. Track)
- the International Conference on Semantics, Knowledge and Grids (SKG 2015)
- Int. Conf. on Artificial Intelligence: Methodology, Systems, Applications (AIMSA'14)
- International Conference on Sustainable Design and Manufacturing (SDM'14)
- International Conference on Web Reasoning and Rule Systems (RR 2013 – RR 2010)
- Int. Conf. on Sem. Systems and the Sem. Web (I-SEMANTICS'13, I-SEMANTICS'12)
- International Conference on Advanced Collaborative Networks, Systems and Applications (COLLA 2013, COLLA 2012, COLLA 2011)
- Int. Conf. on Business Intelligence and Technology (BUSTECH 2012, BUSTECH 2011)
- International Conference on Internet Technologies & Society (ITS 2012)
- Joint International Semantic Technology Conference (JIST 2011)
- International RuleML Challenge (RuleML Challenge 2011, 2010)
- International Web Rule Symposium (RuleML@BRF-2011)
- International Conference on Advanced Intelligence (ICAI'10)
- Int. IEEE Conf. on Signal-Image Tech. and Internet-based Systems (SITIS'10, SITIS'09)

PhD symposiums and Summer Schools

- Doctoral consortium at the International Semantic Web Conference (ISWC 2023)
- ESWC Ph.D. Symposium (ESWC'19, ESWC'17, ESWC'16, ESWC'15)
- Doctoral consortium at the International Conference of the Italian Association for Artificial Intelligence (AI*IA 2018)
- Doctoral consortium at the International Semantic Web Conference (ISWC'17, ISWC'16, ISWC'15)
- OnTheMove Academy (OTMA'18, OTMA'17, OTMA'16) at the OntheMove Federated Conferences
- Student Abstract at the International Conference on Artificial Intelligence – (AAAI'15, AAAI'14, AAAI'13)
- Mentoring Lunch at the International Semantic Web Conference (ISWC'14)
- European Starting AI Researcher Symposium (STAIRS'12, STAIRS'10)
- Doctoral consortium at the International Symposium on Rules (RuleML 2011)
- Reasoning Web Summer School 2011

Special Issues of International Journals

- Semantic Web Journal – Special Issue on Neuro-Symbolic Artificial Intelligence and the Semantic Web (2022)
- International Journal of Virtual Communities and Social Networking - Special Issue on Social media and networks for multimedia content management (2014 - 2015)
- Semantic Web Journal – Spec. Issue on Web Reasoning and Rule Systems (2013 - 2014)
- Semantic Web Journal – Spec. Issue on Cognitive Science and the Semantic Web (2012)
- Semantic Web Journal – Spec. Issue on Semantic Social Media Dynamics (2013 - 2015)
- Transactions in GIS - Special Issue on Semantic Similarity Measurement and Geospatial Applications (2008 - 2009)

International Workshops

- Deep Learning for Knowledge Graphs (DL4KG 2023) co-located with ISWC 2023
- International Workshop on Neural-Symbolic Learning and Reasoning (NeSy'23, NeSy'13 - NeSy'09)
- ICCBR workshop "Analogies: from Theory to Applications" (ICCBR 2022)
- GDPR Compliance - Theories, Techniques, Tools at JURIX 2019
- SEMANTIC WEB SOLUTIONS FOR LARGE-SCALE BIOMEDICAL DATA ANALYTICS (SeWeBMeDA'19, SeWeBMeDA'18, SeWeBMeDA'17)
- International workshop BadOntoloGy (BOG'19, BOG'18) co-located with the Joint Ontology Workshops (JOWO 2018)
- the International Workshop on Linked Data for Information Extraction at ISWC (LD4IE'17, LD4IE'16, LD4IE'15, LD4IE'14, LD4IE'13)
- Workshop on Linked Enterprise Data Services, Provenance, Linking and QualitY (LEDSPLaY'17) co-located with the INFORMATIK 2017 conference
- International Workshop on Pitfalls of the Semantic Web in Social Media Analysis (#PITFALLS'16) co-located with ISWC'16
- 13th OWL: Experiences and Directions Workshop and 5th OWL Reasoner Evaluation Workshop (OWLED - ORE 2016) co-located with the EKAW'16
- International Workshop on Knowledge Discovery and Data Mining Meets Linked Open Data (Know@LOD'16 - Know@LOD'12) at ESWC
- International Workshop on Educational Knowledge Management (EKM'16) at ESWC
- Intern. OWL Reasoner Evaluation Workshop (ORE'16, ORE'15) co-located with DL
- Intern. Workshop on LINKed EDucation 2015 (LinkEd 2015) Co-located with ISWC
- the International Workshop on the design, development and use of Knowledge IT Artifacts in professional communities and aggregations (KITA 2015)
- International Workshop on Semantics for Big Data on the Internet of Things (SemBIoT 2014) Co-located with the IEEE International Conference on Big Data
- International Workshop on Semantic Media Adaptation and Personalization (SMAP 2014, SMAP 2013, SMAP 2012, SMAP 2011)
- International Workshop on Advances in Sensors and Interfaces (IWASI'13)
- German Workshop on Artificial Intelligence on the Web (AI on the Web'12) at KI'12
- International Workshop on Knowledge Injection to and Extraction from Linked Data (KIELD'10) at EKAW 2010
- International Workshop on Knowledge Acquisition, Reuse and Evaluation at SITIS IEEE conference, (KARE'10, KARE'09)
- International Semantic Web Applications and Perspectives Workshop (SWAP'08)
- Int. IFIP Workshop on Semantic Web & Web Semantic (SWWS'08, SWWS'07)

2.7 Organization, Direction and Coordination, Supervision, Evaluation of Research Activities

- **Scientific Responsible for the RTD-A** PNRR_PE_04_INF/01(Code Position) – Call n. 4442 of 07/12/2022 – Dr. Zafar Saeed appointed
- **Scientific Responsible for the Research Fellow (Assegno di Ricerca)** n. 01.85 – Call D.R. n. 2658 of 14/07/2023 – Dr. Fatima Amara Zahara
- **Scientific Responsible for the Research Fellow (Assegno di Ricerca)** n. 01.86 – Call D.R. n. 3548 of 03/10/2023 – Dott. Roberto Barile
- **Scientific Responsible for the PhD Position (XL Cycle) co-financed by Sidea Group S.r.l.** - Winner to be announced by the competent office
- **Scientific Advisory Board in Industry**
  - Member of the Scientific Committee of the Impes Service 4.0 Innovation Program of the Impes Service S.p.A, Ferrandina headquarters. The task of the Scientific Committee is to periodically formulate opinions, evaluations and suggestions about the work program to be carried out as part of the Impes Service Innovation Program 4.0 (06/03/2017 – 06/03/3020)
- **Scientific Advisory Board for PhD Activities and study (foreign/other universities)**
  - President of the evaluation committee for the final PhD thesis defense of Dr. Ivan Donadello at University of Trento, Italy. Title "Semantic Image Interpretation: Integration of Numerical Data and Logical Knowledge for Cognitive Vision". Supervisor: Dr. Luciano Serafini, Fondazione Bruno Kessler, Trento, IT. (**18 April 2018**) (evaluation elapsed 06-04-2018 – 30-03-2018)
  - Member of the evaluation committee for the final PhD thesis defense of:
    - Dr. Eric Ferreira Dos Santos at Dublin City University, Ireland. Title “Towards a Framework for Explainability: Understanding Deep Representations in Convolutional Neural Networks from Concepts to Relations to Rules”. Supervisor: Prof. Alessandra Mileo (**March 2025**) (evaluation elapsed 1-12-2024 – 15/01/2025)
    - Dr. Louis Mahon at the University of Oxford, United Kingdom. Title " Discrete Representations of Continuous Data using Deep Learning and Clustering". Supervisors: Prof. Thomas Lukasiewicz, Prof. Yarin Gal. (**2 February 2023**) (evaluation elapsed 12-10-2022 – 31-01-2023)
    - Dr. Erik Bryhn Myklebust, at the University of Oslo, Norway. Title "Ecotoxicological Effect Prediction using a Tailored Knowledge Graph". Supervisors: Prof. Ernesto Jiménez-Ruiz (2018-2022), Prof. Jiaoyan Chen (2019-2022), Prof. Raoul Wolf (2019-2022), Prof. Knut Erik Tollefsen (2019-2022), Grunde Løvoll (2018-2019), Martin Georg Skjæveland (2018-2019) and Prof. Martin Giese (2018-2022) (**3 October 2022**) (evaluation elapsed 06-07-2022 – 29-07-2022)
    - Dr. Pierre Monnin at the Laboratoire Lorrain de Recherche en Informatique et ses Applications, France. Title "Matching and mining in knowledge graphs of the Web of data Applications in pharmacogenomics". Supervisors: Dr. Adrien Coulet, Prof. Amedeo Napoli (**16 December 2020**) (evaluation elapsed 28-09-2020 – 04-12-2020)
    - Dr. Stefan BISCHOF at the Technische Universit.t Wien, Vienna Austria. Title "Complementary Methods for the Enrichment of Linked Data". Supervisor: Prof. Dr. Axel Polleres. (**21 November 2017**) (evaluation elapsed 19-10-2017 – 21-11-2017)

- Member of the evaluation committee for the progress of the PhD of:
  - Nicolas Lazzari, PhD Student at Alma Mater Studiorum University of Bologna. Thesis entiteled "Music composition as a cooperation between Artists and Artificial Intelligence". (22/01/2024 - present)
  - Ali Ballout, Phd Student of the PhD Programme at the Universitè Cote D'Azur. Thesis entitled "*Axiom Learning for Axiom Discovery*". (14/06/2021 – 12/01/2024)
  - Luis Felipe Vargas Rojas, PhD Programme at the interface of biology and computer science entitled "*Developing an ontological framework for facilitating the exploitation and re-use of phenomics data based on a formalization of numerical relationships*". (06/07/2021 – 22/09/2023)

- **Scientific Advisory Board for PhD Activities and study (University of Bari)**
  - Member of Evaluation Committee of the the PhD Program in Computer Science and Mathematics at the University of Bari (18/05/2017 - present)
  - Member of the evaluation committee for the progress of the PhD (at the Computer Science Department, University of Bari) of:
    - Dr. Alessandro Petruzzelli, cycle XXXIX of the PhD Program in Computer Science and Mathematics at the University of Bari (CV Computer Science) (2023 - present)
    - Dr. Andrea Iovine, cycle XXXIV of the PhD Program in Computer Science and Mathematics at the University of Bari (CV Computer Science) (2018 -2021)
    - Dr. Emanuele Pio Barracchia, cycle XXXIII of the PhD Program in Computer Science and Mathematics, University of Bari (CV Computer Science) (2017 – 2020)

- **Organization and Supervision of research activities of visiting researchers / PhD students**
  - Dott. Abdoulaye Diallo, PhD Student at the Department of Computer Science, Gaston Berger University, Saint Louis, Senegal and visiting PhD student at the Computer Science Department, University of Bari. Topic: Ontology Marching (Aug. 2024 - today)
  - Dr. Pierre Monnin, Junior Fellow in AI at Université Côte d'Azur Research, Wimmics team and visiting researcher at the Computer Science Department, University of Bari. Topic: Mining axioms from Knowledge Graph Embeddings (January 2024 – today)
  - Dr. Tran Duc Minh, PhD Student at the University of Nice-Sophia Antipolis. Topic: Rule Discovery from Ontologies (2015 - 2020)
  - Dr. Thomas Scharrenbach, University of Zurich, invited researcher at the University of Bari – Computer Science Department. Topic: Plausible reasoning and controversial axioms (March 2010)
  - Dr. Agnieszka Lawrynowicz – Poznan University, invited researcher at the University of Bari – Computer Science Department. Topic: Deductive/Inductive aggregation of semantic query results (November 2009)

- **Organization and Supervision of the research activities of students at international summer schools**
  - Mentoring and supervision of 5 out of around 72 PhD Students at the International Semantic Web Research Summer School (2024) for the development of a research project. Topic: Machine Learning, Large Language Models and Knowledge Graphs
  - Mentoring and supervision of 4 out of around 64 PhD Students at the International Semantic Web Research Summer School (2023) for the development of a research project. Topic: Machine Learning for Knowledge Graphs
  - Mentoring and supervision of 5 out of 70 PhD Students at the International Semantic Web Research Summer School (2022) for the development of a research project. Topic:

Machine Learning, Embeddings for Knowledge Graphs
    - Mentoring and supervision of 6 out of 58 PhD Students at the International Semantic Web Research Summer School (2019) for the development of a research project. Topic: Machine Learning, Embeddings for Knowledge Graphs
    - Mentoring and supervision of 7 out of 63 PhD Students at the International Semantic Web Research Summer School (2018) for the development of a research project. Topic: Machine Learning, Embeddings for Knowledge Graphs
    - Mentoring and supervision of 6 out of 60 PhD Students at the 11th International Summer School on Ontology Engineering and the Semantic Web (2015) for the development of a research project. Topic: Semantic Knowledge Discovery
    - Mentoring and supervision of 6 out of 53 PhD Students at the and 12th International Summer School on Ontology Engineering and the Semantic Web (2016) for the development of a research project. Topic: Semantic Knowledge Discovery
- **Co-Supervised PhD Thesis at Computer Science Department, University of Bari:**
    - PhD Thesis: 2 (Pasquale Minervini - cycle XXV, Giuseppe Rizzo cycle XXVIII)
- **Co-Supervisor of post-docs at Computer Science Department, University of Bari:**
    - Post-Docs: 2 (Giuseppe Rizzo (2015 – 2019), Pasquale Minervini (2014-2015))

3 Teaching Activities

3.1 Thesis Supervision

Supervision and Co-supervisor of:

- PhD Thesis: 2
- Master Thesis: 11
- Bachelor Thesis: 19

3.2 Teaching activity for PhD students

3.2.1 International Teaching

- “Machine Learning, Large Language Models and Knowledge Graphs” at the International Semantic Web Research summer School (ISWS'24) – Face to face Teaching: 1 hours; Support for Research Project and Mini-project: 13 hours
- “Machine Learning, Embeddings for Large Knowledge Graphs” at the International Semantic Web Research summer School (ISWS'23) – Face to face Teaching: 1,5 hours; Support for Research Project and Mini-project: 13 hours
- “Machine Learning, Embeddings for Large Knowledge Graphs” at the International Semantic Web Research summer School (ISWS'22) – Face to face Teaching: 1,5 hours; Support for Research Project and Mini-project: 13 hours
- “Mining the Semantic Web with Machine Learning: main issues that need to be known” at the Reasoning Web International Summer School (RW 2021) - Face to face Teaching: 1 h.
- “Machine Learning and Knowledge Graphs: possible issues to be taken into account at the

International Summer School on Combining Probability and Logic (Progic 2021) Face to face Teaching: 2,5 hours.

- "Machine Learning, Embeddings for Large Knowledge Graphs" at the International Semantic Web Research summer School (ISWS'19) – Face to face Teaching: 1,5 hours; Support for Reach Project and Mini-project: 13 hours
- "Machine Learning, Embeddings for Large Knowledge Graphs" at the International Semantic Web Research summer School (ISWS'18) – Face to face Teaching: 1,5 hours; Support for Reach Project and Mini-project: 13 hours
- "Mining the Semantic Web: The Knowledge Discovery Process in the SW" at the Winter School on Extraction and Knowledge Management (e-EGC'17) – Face2face Teach.: 2 hours.
- "Knowledge Discovery" at the 12th Semantic Web Summer School (SSSW 2016) – Face to face Teaching: 1,5 hours; Support for Reach Project and Mini-project: 13 hours
- "Knowledge Discovery" at the 11th Semantic Web Summer School (SSSW 2015) – Face to face Teaching: 1,5 hours; Support for Reach Project and Mini-project: 13 hours

3.2.2 Teaching for the PhD Program in Computer Science and Mathematics at the University of Bari

- XXXV Cycle: **"Machine Learning and the Semantic Web"** (2 cfu) (jointly with Prof. Nicola Fanizzi) (2020)
- XXXIII Cycle: **"Machine Learning and the Semantic Web"** (3 cfu) (jointly with Prof. Nicola Fanizzi) (2018)

3.3 Lectureship

Lecturer for the courses (assigned by the Computer Science Department). **For almost all of them the degree of satisfaction of students, taken following university standard procedures, span from 92% to 98% over the years:**

- School of Specialization in Technology and Pathology of Poultry, Rabbit and Game Species, University of Bari
  - "Informatics": methodologies for Designing Relational Databases, **A.Y. 2023/2024, A.Y. 2022/2023, A.Y. 2021/2022** - Face to face teaching: 5 hours (1 CFU) for each A.Y.
  - "Informatics": methodologies for Machine Learning experiments, **A.Y. 2019/2020** – Face to face teaching: 5 hours (1 CFU)
- Master (II Level) in Data Science: Methodologies, analysis, design, solutions, Univ. of Bari
  - "Semantic Web and Linked Open Data", **A.Y. 2019/2020** – Face2face teach.: 21 hours
- Data Science Master Degree:
  - "Semantic Technologies and Knowledge Graph", **A.Y. 2022/2023** – Face to face teaching: 3 CFU (out of 5+1 CFU)
  - "Semantic Web and Linked Open Data", **A.Y. 2021/2022** – Face to face teaching: 2 CFU (out of 5+1 CFU)
- Computer Science Master Degree:
  - "Semantic Technologies and Knowledge Graph", **A.Y. 2024/2025** – Face to face teaching: 3 CFU (out of 5+1 CFU)
  - "Semantic Technologies and Knowledge Graph", **A.Y. 2023/2024** – Face to face teaching: 2 CFU (out of 5+1 CFU)
  - "Machine Learning", **A.Y. 2024/2025 – A.Y. 2022/2023** – Face to face teaching: 4+1 CFU (out of 7+2 CFU)

  - "Machine Learning", **A.Y. 2021/2022, A.Y. 2020/2021** – Face to face teaching: 3+1 CFU (out of 7+2 CFU)
  - "Semantic Web Technologies", A.Y. **2019/2020** – Face to face teaching: 5+1 CFU
- Informatics Bachelor Degree:
  - "Data Bases", A.Y. **2022/2023** - A.Y. **2015/2016** – Face to face teaching: 7+2 CFU
- Chemistry Bachelor Degree:
  - "Informatics"**,** A.Y. **2009/2010** – Face to face teaching: 3 CFU

3.4 Teaching Assistance

Teaching Assistant for the courses:

- **Technologies for the Semantic Web**, Master degree in Informatics A.Y. **2016/2017, 2015/2016 - Face** to face teaching: 1 CFU for each A.Y. Overall: 2 CFU
- **Programming Languages**, bachelor degree in Informatics and technologies for software production A.Y. **2011/2012** - Face to face teaching: 2 CFU
- **Artificial Intelligence** Master Degree in Informatics A.Y. **2015/2016, 2014/2015, 2013/2014, 2012/2013, 2011/2012** (Methods and techniques for performing experiments) - Face to face teaching: 1 CFU for each A.Y. Overall: 5 CFU
- **Artificial Intelligence** Master Degree in Informatics A.Y. **2010/2011** (Ontologies and OWL, Description Logics, Reasoning Services in DLs, RDF and SPARQL) - Face to face teaching: 1,5 CFU
- **Artificial Intelligence** Master Degree in Informatics A.Y. **2009/2010, 2008/2009** (Ontologies and OWL, Description Logics, Reasoning Services in DLs) - Face to face teaching: 1 CFU for each A.Y; Overall: 2 CFU
- **Knowledge Engineering and Expert Systems**, Master Degree in Informatics A.Y. **2012/2013, 2010/2011, 2009/2010, 2008/2009, 2007/2008** (practical exercises for the realization of expert systems in clips) - Face to face: 1 CFU for each A.Y; Overall: 5 CFU
- **Programming Languages**, bachelor degree in Informatics and technologies for software production **A.Y. 2008/2009** (practical exercises with JavaCC) - Face2face teaching: 1 CFU
- **Machine Learning course,** Master degree in Computer Science. **A.Y. 2004/2005 -** Face to face teaching: 1 CFU

3.5 Tutoring

Tutoring for the courses:

- **Programming Languages**, bachelor degree in Informatics and technologies for software production **A.Y. 2011/2012 -** Face to face teaching: 1 CFU
- **Algorithms and Structured Data (lab.)**, Master Degree in Informatics **A.Y. 2004/2005** - Face to face teaching: 2 CFU
- **Knowledge Engineering and Expert Systems (laboratory)**, Master Degree in Informatics **A.Y. 2000/2001 – 2001/2002 – 2002/2003 – 2003/2004 – 2004/2005** - Face to face teaching: 1 CFU for each A.Y; Overall 5 CFU
- **Network Programming (laboratory)**, Master Degree in Informatics. **A.Y. 2003/2004** - Face to face teaching: 2 CFU

3.6 Tutorials

3.6.1 Tutorials within International Workshops

- 19 December 2007 - *"Inductive Reasoning on Ontologies and Rules for the Semantic Web"* - SWAP 2007

3.6.2 Tutorial for Industries

Claudia d'Amato gave tutorials for the following industries on the topic reported below

- **"UML 1.4: contents and application"** - Omar S.p.A - Allaxia Group. **September 2004** - Face to face teaching: 16 hours
- **"UML 1.4: contents and application"** - Planetek Italy S.r.l. **July 2004** - Face to face teaching: 16 hours

4 Institutional, Organizational and Service Activities for the University

In the following are listed the institutional, organizational and service activities that Claudia d'Amato carried out or is involved with along the years (starting from the most recent ones).

- **Delegate of the Director of the Computer Science Department for activities related to the paths for transversal skills and orientation (PCTO), nominated with D.D. n. n. 41 del 10/05/2024 (10/05/2024 - present)**
- Member of the Computer Science Department Council (four-year academic period 2021-2025) as representative of Associate Professors, nominated with D.R. n. 3484 of 27/09/2023 (27/09/2023 – present)
- Member of the Commission for ensuring the quality of the PhD Program (APQ) nominated during the official meeting of the Council of the PhD Program in Computer Science and Mathematics of the University of Bari (XXXIX cycle) (20/07/2023 – today)
- Member of the Committee for the PhD Admission for the PhD Program in Computer Science and Mathematics (XXXIX cycle) - D.R. n.2797 of 24.07.2023
- Responsible for the University of Bari of the project PLS-Informatica: "Progetto Nazionale di Informatica nell'ambito del Piano Lauree Scientifiche, triennio 2021-2023 - Informatica" (Approvazione Decreto del Capo del Dipartimento per la Formazione Superiore e la Ricerca del MIUR, 4 agosto 2023, n. 1295)
- Responsible for the short-term contract (3 months) for occasional collaboration on activities related to PLS-Informatica project (10/2023 – 01/2024)
- Person in charge, on the account of the University of Bari, for the memorandum of understanding with Fondazione IBM involving NERD? (Non è Roba per Donne?) project (24/11/2022 - present)
- Member of the local board of the "Fame Lab" event. FameLab is an event conceived by Cheltenham Festivals and promoted worldwide by the British Council in over 30 different countries. FameLab Bari is born on the initiative of the National Institute of Nuclear Physics

(INFN) and the University of Bari and targets your researchers proving their ability to divulgate scientific contents in an engaging way. (19/11/2022 – present).

- Member of multiple commissions for grant fellowship, research fellowship, research assistant positions (RTD-A and RTD-B), both at the University of Bari as well as appointed by other Italian Universities
- Secretary for the various official meetings of the Council of the PhD Program in Computer Science and Mathematics of the University of Bari (10/05/2024, 28/06/2024, 17/10/2023, 30/06/2023, 19/12/2022, 28/06/2020)
- Member of the polling station for the election of the Director of the Computer Science Department of the university of Bari, four year (2022-2026) academic period (15/09/2022)
- Member of the commission for studying and planning the pre-lecture (pre-corsi) to be delivered to students and targeting courses where students show main criticalities (12/05/2022 – 20/09/2023)
- Person in charge for the Computer Science Department of the project "Scuole in STE@M. Progetti per la promozione delle discipline STEM" promoted by Regione Puglia, in collaboration with the Deprtment of Mathematics of the University of Bari, Politecnico di Bari, University of Salento and university of Foggia. The project aims at reducing the gender gap in STEAM targeting your students starting with secondary school (11/05/2022 – 30/04/2024)
- Tutor for the students of the Master Degree in Computer Science (22/04/2022 - present)
- Member of the working group for the relationship of the Council of Interclasses of Study Courses in Computer Science (CICSI) of the Computer Science Department with Public Authorities and Industries (08/03/2022, institution of the working group - present)
- Scientific responsible for the course "Coding Girls" under the transversal skills initiatives a.a. 2020-2021 (05/03/2021)
- Member of the Scientific Committee of the University of Bari as partner of STEAMiamoci project promoted by Assolombarda. The project is aimed at developing initiatives to enhance female talents in the scientific and technological professions. (30/11/2021 - present)
- Member of the local board of the "Art and Science across Italy" project. It is a European project organized, by the National Institute of Nuclear Physics (INFN) and Ginevra CERN targeting students from the high schools and aiming at promoting the scientific divulgation by exploiting the language of art, for finally engaging students in STEM disciplines (23/09/2020 – present).
- Member of Computer Science Department Council managing foreign student applications (20/12/2020 - present)
- Scientific leader for the collaboration agreement between the Department of Computer and Fondazione Mondo Digitale for the realization of activities of training and coaching throughout the country, as well as for the design of training programs and of research. Specifically, the goal of the collaboration is the promotion of experimental and innovative paths and related to the use of new technologies and aimed at students of all levels, to be carried out in the spaces of the Innovation Gym, in schools, in the laboratories of the university department or in other locations agreed from time to time. (13/11/2019 – present)
- Member of the Electoral Commission for the election of the representative of PhD Students within the Board of the Doctorate in Informatics and Computer Science
  - XXXV Cycle - Academic biennium 2019/2020 - 2020/2021 – Election Day 15/10/2020

  - XXXIII Cycle – Academic biennium 2017/2018 - 2018/2019 – Election Day 25/05/2018
- Member of Committee of the University of Bari for the students Orientation and Tutoring (CAOT) (20/03/2019 - present)
- Member of Commission of the Computer Science Department for the students Orientation and Tutoring (20/03/2019 - 2023). The commission has been cancelled as per decision of the new elected director of the department.
- **Delegate of the Director of the Computer Science Department for the leaning of potential new freshmen, nominated with D.D. n. 28 of 20/03/2019 (20/03/2019 - present)**
- Elected member of the Computer Science Department Council as representative of Assistant Professors (11/12/2018 – 20/12/2019, role terminated for have being appointed as Associate Professor)
- Member of the Evaluation Committee of the PhD Program in Computer Science and Mathematics at the University of Bari (18/05/2017 - present)
- Guarantor for the Bachelor Degree in “Informatics”, Computer Science Department – University of Bari “Aldo Moro” (01/02/2016 - present)
- **Organization, Coordination, Delivery and Responsibility of the following projects and orientation actions targeting (incoming) students**

  - **A.A. 2024/2025**
    - Open Day Uniba (25 September 2024)
  - **A.A. 2023/2024**
    - Open Day Uniba (27 September 2023)
    - Progetto NERD? (Non E' Roba x Donne?): promoted by fondazione IBM and in collaboration with Politecnico di Bari. January – May 2024
    - Prima Settimana Nazionale delle Discipline STEM – Event Science on Demand (8 – 9 February 2024)
    - Orientamento Lauree Triennali (20, 21 February 2024)
    - Orientamento Consapevole (hybrid), March– April 2024
    - Seminario offerta formativa del Dipartimento di Informatica nell’ambito dell’evento Di Bit in Bit: Un Viaggio dalla Concezione alla Creazione di un progetto elettronico ed informatico (4 April 2024)
    - Open Campus (24 April 2024)
    - Orienteering Project (November 2023 – April 2025)
  - **A.A. 2022/2023**
    - PHEST (September – Otober 2022)
    - Open Day Uniba (27 October 2022)
    - Art and Science Across Italy (September 2022 – April 2024)
    - Progetto NERD? (Non E' Roba x Donne?): promoted by fondazione IBM and in collaboration with Politecnico di Bari. January – May 2023
    - Orientamento Lauree Triennali (21, 22 February 2023)
    - Orientamento Consapevole (hybrid), March– April 2023
    - Orienteering Project (November 2022 – April 2024)
    - Coding Girls: in collaboration with Fondazione Mondo Digitale (February 2020 – April 2023)

    - Uniba è Magistrale (21 June 2023)
    - Scuole in STE@M (October 2022- April 2024)
- **A.A. 2021/2022**
    - Open Day Uniba (25 Novemeber 2021)
    - Progetto NERD? (Non E' Roba x Donne?): promoted by fondazione IBM and in collaboration with Politecnico di Bari. January – May 2022
    - Uniba è Magistrale (25 February 2022)
    - Orientamento Consapevole (online), February– April 2022
    - Orientamento Lauree Triennali: (18 March 2022)
    - Open Campus (27 April 2022)
    - Salone dello Studente (May 2022)
- **A.A. 2020/2021**
    - Art and Science Across Italy (September 2020 – April 2022)
    - Coding Girls: in collaboration with Fondazione Mondo Digitale (Septemeber 2020 – May 2021)
    - Progetto NERD? (Non E' Roba x Donne?): promoted byfondazione IBM and in collaboration with Politecnico di Bari. January – May 2021
    - Orientamento Consapevole (online), February– April 2021
    - Orientamento Lauree Triennali: (21 May 2021)
    - Uniba è Magistrale (21 July 2021)
- **A.A. 2019/2020**
    - Open Day Uniba (4 October 2019)
    - Coding Girls: in collaboration with Fondazione Mondo Digitale (August 2019 – May 2020)
    - Progetto NERD? (Non E' Roba x Donne?): promoted byfondazione IBM and in collaboration with Politecnico di Bari. January – May 2020
    - Orientamento Consapevole (erogato in parte da remoto), February– April 2020
    - Orientamento Lauree Triennali: (28 – 29 May 2020)
    - Uniba è Magistrale (22 – 23 July 2020)
- **A.A. 2018/2019**
    - Open Campus, 20 Febbraio 2019 (involved as speaker)

Third Mission

- Invited Speaker for the event "#gendergap nelle discipline #STEM" organized by Liceo Leonardo Da Vinci, Cassano Murge (11/02/2023)
- Speaker for the event: Incontro 'BibliotecAria' e 'Thought and Science Lab' of the topic: 'Il Distretto Produttivo dell'Informatica incontra il Liceo Fermi' (08/04/2022)
- Invited Speaker for the event "SI fa STEM" organized by Soroptimist Bari (29/03/2019)

5 Publications

In the following the bibliometrics indicators for the research activity of Claudia d'Amato are reported jointly with the reference day and the adopted tool for the indicators computation. Afterwards, the complete list of Claudia d'Amato publications is reported, distinguishing among different categories, such as: Books, Edited Works, International Journals, Book Chapters, International Conferences, International Workshops, Posters, National Conferences and National Workshops.

Overall Number of Citations:	4482	Google Scholar: 16/08/2024
H-Index:	29	Google Scholar: 16/08/2024
i10-Index:	67	Google Scholar: 16/08/2024
H-Index:	20	Scopus: 16/08/2024

5.1 Books / Monographs

1. Aidan Hogan, Eva Blomqvist, Michael Cochez, **Claudia d'Amato**, Gerard de Melo, Claudio Gutiérrez, Sabrina Kirrane, José Emilio Labra Gayo, Roberto Navigli, Sebastian Neumaier, Axel-Cyrille Ngonga Ngomo, Axel Polleres, Sabbir M. Rashid, Anisa Rula, Lukas Schmelzeisen, Juan Sequeda, Steffen Staab, Antoine Zimmermann: Knowledge Graphs. Synthesis Lectures on Data, Semantics, and Knowledge, Morgan & Claypool Publishers, pp. 1-257. ISBN-13: 978-3031007903. DOI: 10.3233/NAI-240675 (2021)

5.2 International Journals

1. N. Fanizzi, **C. d'Amato**: The blessing of dimensionality. Neurosymbolic Artificial Intelligence. Vol. 1(1): 1 – 15. DOI: 10.1016/j.future.2020.02.071 (2024)
2. **C. d'Amato**, L. Mahon, P. Monnin, G. Stamou: Machine Learning and Knowledge Graphs: Existing Gaps and Future Research Challenges. Transactions on Graph Data and Knowledge (TGDK). Schloss Dagstuhl – Leibniz-Zentrum f˙ur Informatik. Dagstuhl Publishing, Vol. 1(1): 8:1-8:35. DOI: 10.4230/TGDK.1.1.8 (2023)
3. A. Hogan, E. Blomqvist, M. Cochez, **C. d'Amato**, G. de Melo, C. Gutiérrez, S. Kirrane, J-E. Labra Gayo, R. Navigli, S. Neumaier, A.C. Ngonga Ngomo, A. Polleres, S. M. Rashid, A. Rula, L. Schmelzeisen, J. F. Sequeda, S. Staab, A. Zimmermann: Knowledge Graphs. ACM Computing Survey Vol. 54(4): 71:1-71:37 DOI: 10.1145/3447772 (2022)
4. G. Rizzo, **C. d'Amato**, Nicola Fanizzi: An unsupervised approach to disjointness learning based on terminological cluster trees. Semantic Web 12(3): 423-447. DOI: 10.3233/SW-200391 (2021)
5. G. Rizzo, N. Fanizzi, **C. d'Amato**: Class expression induction as concept space exploration: From DL-Foil to DL-Focl. Future Generation Computer Systems. Vol. 108: 256-272. DOI: 10.1016/j.future.2020.02.071 (2020)
6. [J13] **C. d'Amato**. Machine Learning for the Semantic Web: Lessons Learnt and Next Research Directions. Semantic Web Journal, IOS Press. Vol. 11(1): 195-203. DOI: 10.3233/SW-200388 (2020)

7. G. Rizzo, N. Fanizzi, **C. d'Amato**, F. Esposito: Approximate classification with web ontologies through evidential terminological trees and forests. Int. J. Approx. Reasoning 92: 340-362. DOI: 10.1016/j.ijar.2017.10.019 (2018)
8. P. Minervini, V. Tresp, **C. d'Amato**, N. Fanizzi: Adaptive knowledge propagation in Web ontologies. ACM TRANSACTIONS ON THE WEB, vol. 12, p. 1-28, ISSN: 1559-1131, DOI: 10.1145/3105961 (2018)
9. G. Rizzo, **C. d'Amato**, N. Fanizzi, F. Esposito: Tree-based models for inductive classification on the Web of Data. Journal of Web Semantics. 45: 1-22. DOI: 10.1016/j.websem.2017.05.001 (2017)
10. P. Minervini, **C. d'Amato**, N. Fanizzi. Efficient energy-based embedding models for link prediction in knowledge graphs. Journal of Intelligent Information Systems Vol.47(1): 91-109. Springer. Berlin. DOI: 10.1007/s10844-016-0414-7. ISSN: 0925-9902 (2016)
11. P. Minervini, **C. d'Amato**, N. Fanizzi, V. Tresp. Discovering Similarity and Dissimilarity Relations for Knowledge Propagation in Web Ontologies. Journal on Data Semantics Vol. Springer Berlin. ISSN: 1861-2032. DOI: 10.1007/s13740-016-0062-7 (2016)
12. [IJ000] C.M. Keet, A. Ławrynowicz , **C. d'Amato**, Alexandros Kalousis, Phong Nguyen, Raul Palma, Robert Stevens, Melanie Hilario. The Data Mining OPtimization Ontology. Journal of Web Semantics. Vol. 32: 43-53. Elsevier. DOI: 10.1016/j.websem.2015.01.001. ISSN: 1570-8268 (2015)
13. [IJ00] N. Fanizzi, **C. d'Amato**, F. Esposito, P. Minervini. Numeric Prediction on OWL Knowledge Bases through Terminological Regression Trees. Int. J. of Semantic Computing. Vol. 6(4): 429-446. World Scientific Publishing Company. ISSN: 1793-351X (2012)
14. [IJ0] A. Rettinger, U. Lösch, V. Tresp, **C. d'Amato**, N. Fanizzi: Mining the Semantic Web - Statistical learning for next generation knowledge bases. Journal of Data Mining and Knowledge Discovery. 24(3): 613-662. ISSN: 1384-5810 (2012)
15. [IJ1] N. Fanizzi, **C. d'Amato**, F. Esposito. Induction of robust classifiers for web ontologies through kernel machines. International Journal of Web Semantics. Elsevier. Vol. 11: 1-13. ISSN: 1570-8268. DOI: 10.1016/J.WEBSEM.2011.11.003 (2012)
16. [IJ2] **C. d'Amato,** N. Fanizzi, B. Fazzinga, G. Gottlob, and T. Lukasiewicz. Ontology-Based Semantic Search on the Web and its Combination with the Power of Inductive Reasoning. Annals of Mathematics and Artificial Intelligence (AMAI). Vol. 65(2-3): 83-121. Springer. DOI: 10.1007/S10472-012-9309-7 (2012)
17. [IJ3] **C. d'Amato**, S. Staab, N. Fanizzi, F. Esposito**.** DL-LINK: A Conceptual Clustering Algorithm for indexing description logics knowledge bases. International Journal of Semantic Computing Vol.4(4): 453-486 DOI: 10.1142/S1793351X10001085 (2010)
18. [IJ4] **C. d'Amato**, N. Fanizzi, F. Esposito. Inductive Learning for the Semantic Web: What does it buy? Semantic Web Journal. Vol. 1(1) pp. 53-59. IOS-Press. ISSN: 1570-0844. DOI: 10.3233/SW-2010-0007 (2010)
19. [IJ5] N. Fanizzi, **C. d'Amato**, F. Esposito. Composite Ontology Matching with Uncertain Mappings Recovery. ACM Applied Comp. Review Vol. 11(2) ISSN: 1559-6915 (2011)
20. [IJ6] F. Esposito, **C. d'Amato**, N. Fanizzi. Fuzzy Clustering for Semantic Knowledge Bases. Fundamenta Informaticae Vol. 99(2):187-205. IOS Press. ISSN: 0169-2968 (2010)
21. [IJ7] N. Fanizzi, **C. d'Amato**, F. Esposito. Inductive Classification of Semantically Annotated Resources through Reduced Coulomb Energy Networks. International Journal of Sem. Web and Inform. System vol.5(4) pp. 19-38. IGI Publishing. ISSN: 1552-6283 (2009)

22. [IJ8] N. Fanizzi, **C. d'Amato**, F. Esposito. Metric-based Stochastic Conceptual Clustering for Ontologies. Information Systems International Journal Vol. 34(8):792-806. Elsevier. ISSN: 0306-4379 (2009)
23. [IJ9] N. Fanizzi, **C. d'Amato**, F. Esposito. Induction of Classifiers through Non-Parametric Methods for Approximate Classification and Retrieval with Ontologies. Int. Journal of Semantic Computing Vol.2(3) pp. 403–423. ISSN: 1793-351X (2008)
24. [IJ10] N. Fanizzi, **C. d'Amato**, F. Esposito. Evolutionary Conceptual Clustering Based on Induced Pseudo-Metrics. International Journal of Semantic Web and Information System Vol.4(3) ISSN: 1552-6283 (2008)
25. [IJ11] **C. d'Amato**, N. Fanizzi, F. Esposito. Ontologies: An Introduction. EMBnet.news vol.14(1) pp. 28-35 EMBnet Executive Board. ISSN 1023-4144 (2008)
26. [IJ12] A. Appice **C. d'Amato**, F. Esposito, D. Malerba. Classification of Symbolic Objects: A Lazy Learning Approach. Journal of Intelligent Data Analysis Vol.10(4) pp.301-324. IOS Press. ISSN 1088-467X (print) ISSN 1571-4128 (Online) (2006)

5.3 Book Chapters

1. **C. d'Amato:** Mining the Semantic Web with Machine Learning: Main Issues that Need to Be Known. In M. Simkus and I. Varzinczak (eds.). Reasoning Web. Declarative Artificial Intelligence - 17th Int. Summer School 2021, Leuven, Belgium, 2021, Tutorial Lectures. Vol. 13100 pp. 76-93, LNCS Springer, DOI: 10.1007/978-3-030-95481-9_4 (2021)
2. [BC1] J. Lehmann, N. Fanizzi, L. Buhmann, **C. d'Amato**. Concept Learning. In: J. Lehmann et al. Editors. Perspective of Ontology Learning. IOS-Press. ISBN 978-1-61499-378-0 (print version) ISBN 978-1-61499-379-7 (electronic version) (2014)
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5.5 Edited Works

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5.10 National Workshops

1. [NW1] N. Fanizzi, **C. d'Amato**, F. Esposito. Semantic Nearest Neighbor Search in OWL Ontologies. In Proceedings of the 4rd Italian Semantic Web Workshop (SWAP 2007). Vol. 314 CEUR workshop Proceeding. ISSN 1613-0073 (2007)
2. [NW4] **C. d'Amato**, N. Fanizzi, F. Esposito. Reasoning by Analogy in Description Logics through Instance-based Learning. In Proceedings of the 3rd Italian Semantic Web Workshop (SWAP 2006). CEUR Workshop Proceedings, ISSN 1613-0073 (2006).
3. [NW5] **C. d'Amato**, N. Fanizzi, F. Esposito. A Dissimilarity Measure for the ALC Description Logic. In Proceedings of the 2nd Italian Semantic Web Workshop (SWAP 2005). CEUR Workshop Proceedings, ISSN 1613-0073 (2005).

6 Dichiarazione Contributo della Candidata alle Pubblicazioni Redatte in Collaborazione ed allegate per la valutazione

Si specificano di seguito i contributi della candidata alle pubblicazioni allegate per la valutazione. Gli identificativi dei lavori fanno riferimento agli identificativi riportati nell'elenco delle pubblicazioni allegate per la valutazione.

Contributo PREVALENTE

- [P1] C. d'AMATO, Louis Mahon, Pierre Monnin, Giorgos Stamou. (2023). Machine Learning and Knowledge Graphs: Existing Gaps and Future Research Challenges. TRANSACTION ON GRAPH DATA AND KNOWLEDGE (TGDK), Vol.1(1), pp. 8:1-8:35, Schloss Dagstuhl – Leibniz-Zentrum für Informatik, doi: 10.4230/TGDK.1.1.8
- [P4] C. d'AMATO (2020). Machine Learning for the Semantic Web: Lessons learnt and next research directions. SEMANTIC WEB, vol. 11, p. 195-203, ISSN: 1570-0844, doi: 10.3233/SW-200388
- [P12] C. d'AMATO, N. Fanizzi, F. Esposito. (2010). Inductive Learning for the Semantic Web: What does it buy? SEMANTIC WEB, vol. 1(1), p. 53-59, IOS Press, doi: 10.3233/SW-2010-0007

Contributo PREVALENTE, insieme a Maria C. Keet e Agnieszka Ławrynowicz

- [P9] M. C. Keet, A. Ławrynowicz, C. d'AMATO, A. Kalousis, P. Nguyen, R. Palma, R. Stevens, M. Hilario (2015). The Data Mining OPtimization Ontology. JOURNAL OF WEB SEMANTICS, vol. 32, p. 43-53, ISSN: 1570-8268, DOI: 10.1016/j.websem.2015.01.001

Contributo PREVALENTE insieme a Nicola Fanizzi

- [P11] N. Fanizzi, C. d'AMATO, F. Esposito. (2012). Induction of robust classifiers for web ontologies through kernel machines. JOURNAL OF WEB SEMANTICS, vol. 11, p. 1-13, doi: 10.1016/J.WEBSEM.2011.11.003
- [P13] N. Fanizzi, C. d'AMATO, F. Esposito. (2009). Inductive Classification of Semantically Annotated Resources through Reduced Coulomb Energy Networks. INTERNATIONAL J. ON SEMANTIC WEB AND INFORMATION SYSTEMS (IJSWIS) Vol. 5(4):19-38, IGI Publishing. DOI: 10.4018/JSWIS.2009100102
- [P14] N. Fanizzi, C. d'AMATO, F. Esposito. (2009). Metric-based Stochastic Conceptual Clustering for Ontologies. INFORMATION SYSTEMS, vol. 34(8), p. 792-806, doi: 10.1016/J.IS.2009.03.008
- [P15] N. Fanizzi, C. d'AMATO, F. Esposito. (2008). Evolutionary Conceptual Clustering Based on Induced Pseudo-Metrics. INTERNATIONAL JOURNAL ON SEMANTIC WEB AND INFORMATION SYSTEMS (IJSWIS) Vol. 4(3), pp. 44—67, IGI Publishing. doi: 10.4018/JSWIS.2008070103

Contributo paritetico. E' da considerarsi PREVALENTE l'apporto in fase di IDEAZIONE E COORDINAMENTO SCIENTIFICO congiuntamente a Nicola Fanizzi.

- [P3] G. Rizzo, C. d'AMATO, N. Fanizzi (2021). An unsupervised approach to disjointness learning based on terminological cluster trees. SEMANTIC WEB JOURNAL, vol. 12, p. 423-447, IOS press. ISSN: 1570-0844, doi: 10.3233/SW-200391

- [P5] G. Rizzo, N. Fanizzi, C. d'AMATO (2020). Class Expression induction as Concept Space Exploration: From DL-Foil to DL-Focl. FUTURE GENERATION COMPUTER SYSTEMS, vol. 108, p. 256-272, Elsevier. ISSN: 0167-739X, doi: 10.1016/j.future.2020.02.071
- [P6] P. Minervini, V. Tresp, C. d'AMATO, N. Fanizzi (2018). Adaptive knowledge propagation in Web ontologies. ACM TRANSAC. ON THE WEB, vol. 12, p. 1-28, ISSN: 1559-1131, doi: 10.1145/3105961
- [P7] G. Rizzo, C. d'AMATO, N. Fanizzi, F. Esposito (2017). Tree-based models for inductive classification on the Web of Data. JOURNAL OF WEB SEMANTICS, Vol. 45, p. 1-22, Elsevier. ISSN: 1570-8268, doi: 10.1016/j.websem.2017.05.001
- [P8] P. Minervini, C. d'AMATO, N. Fanizzi, V. Tresp (2016). Discovering Similarity and Dissimilarity Relations for Knowledge Propagation in Web Ontologies. JOURNAL ON DATA SEMANTICS VOL. 5(4), pp. 229-248, Springer. doi: 10.1007/S13740-016-0062-7
- [P10] A. Rettinger, U. Loesch, V. Tresp, C. d'AMATO, Nicola Fanizzi (2012). Mining the Semantic Web. Statistical Learning for Next Generation Knowledge Bases. DATA MINING AND KNOWLEDGE DISCOVERY, Vol. 24(3), p. 613-662, ISSN: 1384-5810, doi: 10.1007/S10618-012-0253-2

Contributo PARITETICO

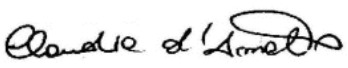
- [P2] Hogan A., Blomqvist E., Cochez M., d'Amato C., Melo G. D., Gutierrez C., Kirrane S., Gayo J. E. L., Navigli R., Neumaier S., Ngomo A. -C. N., Polleres A., Rashid S. M., Rula A., Schmelzeisen L., Sequeda J., Staab S., Zimmermann A. (2022). Knowledge graphs. ACM COMPUTING SURVEYS, vol. 54(4), p. 1-37, ACM. ISSN: 0360-0300, doi: 10.1145/3447772

In generale, il contributo della candidata alle pubblicazioni diverse da quelle allegate può considerarsi paritetico o più che paritetico. Per le pubblicazioni a partire dal 2010 il contributo della candida è da intendersi generalmente prevalente per ideazione e coordinamento scientifico.

Bari, 16 Agosto 2024

In fede,
Claudia d'Amato

In fede,
Nicola Fanizzi (co-autore maggioranza lavori)



7 Past Work and Research experiences

- December 21st, 2016 – December 20th 2019: **Assistant professor (RTD-B tenure track for Associate professorship)**, S.S.D. INF/01
- January 25th – December 20th, 2016: **Assisstant professor (RTD-A)**, S.S.D. INF/01

Research Fellowship (Assegni di Ricerca)

- April 1st 2015 – January 24th 2016: **Research Fellow (assegno di ricerca** ex. art.22 Legge 240/2010**) Department of Computer Science, University of Bari.** Title of the research: "Design and development of methods for discovery of semantically annotated knowledge bases (linked data sets)", S.S.D. INF/01, ING-INF/05;
- December 16th 2011 – December 15th 2013: **Research Fellow (assegno di ricerca** ex. art.22 Legge 240/2010**) Department of Computer Science, University of Bari.** Title of the research: "Research and Development of Machine Learning methods for ontological knowledge from weakly structured data" S.S.D. INF/01, ING-INF/05; (1+1 year)
- April, 2nd 2007 – April, 1st 2011: **Research Fellow (assegno di ricerca** ex. art. 51, comma 6, legge 27/12/1997, n.449**) Department of Computer Science, University of Bari.** Title of the research: "Inductive learning computational models for first order hybrid formalisms" S.S.D. ING-INF/05; INF/01 (2+2 years)

PhD Scholarship

- January 31st 2004 – October, 31st 2006: **PhD Student** at Department of Computer Science, University of Bari.

Collaborations as Associated Researcher (Co.Co.Co)

- July, 9th 2014 – January 8th 2015: **Collaboration (Co.Co.Co.) with Department of Computer Science, University of Bari** for "PUGLIA@SERVICE (L'Ingegneria dei Servizi Internet-Based per lo sviluppo strutturale di un territorio intelligente) Project. Task: Design and development of clustering methods for grouping semantically annotated resources. Project responsible for Bari unit: Prof. Floriana Esposito.
- December, 17th 2013 – June, 16th 2014: **Collaboration (Co.Co.Co.) with Department of Computer Science, University of Bari** for "PUGLIA@SERVICE (L'Ingegneria dei Servizi Internet-Based per lo sviluppo strutturale di un territorio intelligente) Project. Task: Study of methods and techniques for mining Linked Open Data: ranking and aggregation of semantically annotated resources. Project responsible for Bari unit: Prof. Floriana Esposito.
- August, 8th – December, 7th 2011: **Collaboration (Co.Co.Co.) with Department of Computer Science, University of Bari** for SemanticPA (Tecnologie di Semantic Web per la Pubblica Amministrazione) Project. Task: Semantic retrieval of resources within the Public Administration and available on the Web. Project Responsible: Prof. Nicola Fanizzi.
- April 4th – August, 3rd 2011: **Collaboration (Co.Co.Co.) with Department of Computer Science, University of Bari** for SemanticPA (Tecnologie di Semantic Web per la Pubblica Amministrazione) Project. Task: Analysis and developments of methods and techniques for automatic processing of Web available resources in the Public Administration: indexing, semantic categorization, end-point delivery. Project Responsible: Prof. Nicola Fanizzi.
- November 2nd 2006 – April, 30th 2007: **Collaboration (Co.Co.Co.) with Department of Computer Science, University of Bari** for DIPIS project (Produzione Distribuita come Sistema Innovativo). Task: clustering methods and application to Description Logics representation for semantic web services. Project Leader: Prof. Giuseppe Visaggio.

- January 8th – March, 31st 2004: **Collaboration (Co.Co.Co.) with Department of Computer Science, University of Bari** for COLLATE project (Collaboratory for Automation, Indexing and Retrieval of Digitalized Historical archive Material). Task: analysis of classification algorithms and supervised learning to be used for web mining problems within the COLLATE Project. Project Responsible: Prof. Floriana Esposito.
- May, 19th – December, 31st 2003: **Collaboration (Co.Co.Co.) with Omar S.p.A Allaxia group:** analyst and developer for the ***Power*** project: a system for registry management and associative marketing developed for **Confartigianato**

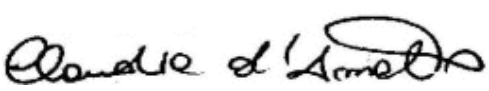
Other Work and Research Experiences

- January 1st – February, 15th 2012: **scientific consultant for the e-LICO European project** for the tasks: a) Recommendations on ontology design and representation of core machine learning/data mining concepts. b) Development of part of the Data Mining Ontology; c) Assessment of DM content and recommendations on content gaps to fill out.
- January 12th – March 11th 2015: **Collaboration (Contratto collaborazione occasionale) with Department of Computer Science, University of Bari** for BIOFAR (Laboratorio Pubblico-Privato per la Biodiversità Molecolare) Project. Task: set up of the teaching material for an advanced course for high formation activities; topics: Description Logics, Ontology Design, Knowledge Management. Project Responsible: Prof. Floriana Esposito.
- April, 14th – May, 15th 2003: **Collaboration (Contratto di collaborazione occasionale) with Department of Computer Science, University of Bari** for ASSO project (Analysis System of Symbolic Official data, IST-2000-25561). Tasks: development of a software module for the empirical study of the properties of dissimilarity and matching measures for symbolic objects; test of modules; definition of a user guide for supporting in choosing the best measure. Project Responsible for the Unit of Bari: Prof. Floriana Esposito.
- March 15th – April 30th, 2001: **Collaboration (Contratto collaborazione occasionale) with Department of Computer Science, University of Bari.** Task: tutoring for lab teaching on Expert Systems within the Knowledge Engineering and Expert Stems course
- September - December 2001; August - December 2000: **Part-time Student at the Department of Computer Science, University of Bari** for the analysis and design of the Information System (SIFAS) of the Science Faculty of the University of Bari.
- May 2000: **Collaboration (Contratto di collaborazione occasionale) with C.I.L.A.** (Interdepartmental Center of Logic and Application) and University of Bari: tutoring for lesson concerning Expert Systems in the sphere of INNOVAMEDIA project.

According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV. I agree on permission of the Personal data Protection Code, Leg. Decr. n.196/2003.

Bari, August 16, 2024

Sincerely,
Claudia d'Amato



8 SUBSTITUTE DECLARATION OF CERTIFICATIONS

(Art. 46 e 47 D.P.R. 445 del 28/12/2000)

The undersigned CLAUDIA d'AMATO born in TERLIZZI (BA) on 16/01/1977 and resident in TERLIZZI (BA) in Prima Traversa Via vecchia Ruvo, 17, telephone: 3286780886, email: claudia.damato@uniba.it aware of the penal sanctions, in the case of untruthful declarations and false documents, referred to in art. 76 Presidential Decree 445 of 28/12/2000,

DECLARES

to be in possession of all the qualifications and titles listed in this curriculum.

Bari, 16 August 2024

The declarant
Claudia d'Amato