



GIOVANNI CIATTO

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ABOUT ME

I am a fixed-term junior assistant professor (“RTD-A”) at the Dept. of Computer Science and Engineering (DISI), of the University of Bologna (UniBO) since March 2023, with a PhD in Data Science and Computation and a M.Sc. in Computer Science and Engineering. Since dec. 2024, I have been awarded the Italian National Scientific Qualification (ASN) as Associate Professor (‘II fascia’) in Computer Engineering (09/H1). Previously, I was a post-doctoral research fellow (2022–2023) and PhD student (2017–2021) at the same department. My main research interests comprehend the areas of artificial intelligence (AI), logic programming (LP), multi-agent systems (MAS), distributed systems, and software engineering. In particular, my contributions have a focus on the models, architectures, and infrastructures for symbolic reasoning and sub-symbolic processing, there including: (i) knowledge injection and extraction of symbolic knowledge into/from sub-symbolic predictors, (ii) logic and agent-oriented programming, and (iii) the engineering of software technologies laying at their intersection. I have been teaching these topics since when I was a PhD student, in various master and PhD courses held at UniBO, as well as in summer schools (e.g., EASSS) and international conferences (e.g., PRIMA), and workshops (e.g., CILC, WOA). I have co-authored more than 70 scientific publications, in peer-reviewed journals, conferences, and workshops, concerning these topics. I have been involved in the organization of (i) MAS-related special issues in international journals (e.g., JAAMAS, IA), as well as (ii) MAS- and LP-related workshops and conferences (e.g., EXTRAAMAS, WOA, CILC). I have been actively serving in the program committees of many MAS- and AI-related international conferences and workshops (e.g., AAMAS, IJCAI, AAI), and as a reviewer for several prestigious journals (e.g., JAAMAS, CSUR, JAIR). Finally, I am involved in the development of research-oriented software tools and libraries, which are relevant for the MAS community, including LP solvers (e.g. 2P-Kt, cf. [CCO21a]), or BDI agent programming toolkits (e.g. JaKtA, cf. [Bai+24a]).

ACADEMIC POSITIONS AND EXPERIENCE

National Qualification as Associate Professor **Dec, 2023 → Dec 2035**

- Italian National Scientific Qualification (ASN) as Associate (‘II fascia’) Professor in Computer Engineering (09/H1)
- ASN Web Page <https://asn21.cineca.it/pubblico/miur/esito-abilitato/09%252FH1/2/6>

Junior Assistant Professor, “RTDa” **March, 2023 → February, 2026**
Department of Informatics – Science and Engineering (DISI) *University of Bologna, Italy*

- Department’s Web Page <https://disi.unibo.it/en/department/people/faculty?searchtext=ciatto>
- Institutional Home Page <https://www.unibo.it/sitoweb/giovanni.ciatto/en>

(Post-doc) Research Fellow, “Assegnista di ricerca” **April, 2022 → February, 2023**
Department of Informatics – Science and Engineering (DISI) *University of Bologna, Italy*

- Project title: “Ingegnerizzazione di sistemi ibridi basati su logica computazionale per la XAI”
- Goal: designing and prototyping software solutions for eXplainable AI (XAI) combining computational logic and machine learning
- Supervisor: Prof. Andrea Omicini

Research Fellow, “Assegnista di ricerca”

April, 2017 → October, 2017

Department of Informatics – Science and Engineering (DISI)

University of Bologna, Italy

- Project title: “Language and platform techniques for complex software systems development”
- Goal: producing a translation framework & runtime aimed at automatically converting COBOL sources into .NET sources
- Supervisor: Prof. Mirko Viroli
- Reference: Mr. Andrea Patrignani

EDUCATION

PhD Degree

Nov., 2017 → June, 2022

Data Science and Computation (4y PhD programme)

University of Bologna, Italy

- Studies in the field of artificial intelligence, focusing on novel enabling approaches, architectures and technologies combining logic programming with machine learning
- Supervisor: Prof. Andrea Omicini
- Thesis: “On the role of Computational Logic in Data Science: representing, learning, reasoning, and explaining knowledge”
- external site: <http://amsdottorato.unibo.it/10192>

Visiting PhD Student

May, 2019 → August, 2019

University of Applied Sciences Western Switzerland (HES-SO)

Sierre, Valais, Switzerland

- Studies in the field of eXplainable Artificial Intelligence (XAI) and Multi Agent Systems (MAS)
- References: Prof. Michael Ignaz Schumacher, Dr. Davide Calvaresi

Internship

June, 2016 → December, 2016

I3S Laboratory

University of Nice–Sophia Antipolis, France

- Studies in the field of theoretical informatics applied to third generation neural networks
- Supervisors: Prof. Gianluigi Zavattaro, Prof. Cinzia Di Giusto, Prof. Elisabetta De Maria

Master’s degree

October, 2014 → March, 2017

Computer Science and Engineering

University of Bologna, Italy

- Studies in the field of programming paradigms, computational models, distributed systems coordination, robotics, machine learning and artificial vision, web applications, business intelligence, model-driven software engineering
- Final mark: 110/110 *cum laude*
- Thesis: “Third generation neural networks: formalization as timed automata, validation and learning”
 - Summary: Modeling of spiking neural networks by means of the “timed automata” formalism, validation of the so-achieved model and proposal of a learning approach
 - Supervisor: Prof. Gianluigi Zavattaro
 - Co-supervisors: Prof. Cinzia Di Giusto, Prof. Elisabetta De Maria
 - External site: <http://amslaurea.unibo.it/12947>

Internship

October, 2013 → February, 2014

A GUI for the Alchemist Simulator

APICe lab, University of Bologna, Cesena, Italy

- Design and implementation of a GUI for the Alchemist simulator and its integration with OpenStreetMap
- Supervisor: Prof. Mirko Viroli

Bachelor's degree

Electronics, informatics and telecommunications engineering

Sept., 2011 → October, 2014

University of Bologna, Italy

- Studies in the field of networking, signal processing, software engineering and programming languages.
- Final mark: 110/110 *cum laude*
- Thesis: “Impiego combinato di GPS, BLE e riconoscimento di immagini per individuare entità nella realtà aumentata”
 - Summary: Steering a user perceiving an augmented world by integrating GPS for long distances, bluetooth beacons for indoor localization, and marker recognition for closer objects.
 - Supervisor: Prof. Mirko Viroli
 - External site: <http://amslaurea.unibo.it/7658>

High-school diploma

Scientific curriculum

2006 → 2011

Liceo Scientifico “C. Caminiti”, S. Teresa di Riva (ME), Italy

- Final mark 98/100

FACULTY AND SERVICE ACTIVITY

Responsible for Commissioned Consultancy Contract

Dept. of Computer Science and Engineering

2023 → 2024

University of Bologna

- Total value of the contract: € 30,000.00
- Consultancy theme: ‘Reingegnerizzazione del sistemi informativo aziendale ai fini di una maggiore automazione industriale’
- Contact reference: Rep. 122, Prot. 1863 del 05/10/2023
- As part of this contract, I funded and supervised a 6-month activity of a pre-graduate student (‘borsa di ricerca’)

Designated Fire Safety and First Aid Officer

DISI, Cesena Campus

2025 → Ongoing

University of Bologna

- In Italian: “Addetto per la Prevenzione Incendi e Primo Soccorso” for the Cesena Campus
- Nominated by the Department Head, Prot. n. 0001077 del 21/03/2025

Member of the Working Group on the Responsible Use of Artificial Intelligence (GLAI) in Teaching and Research

2024 → Ongoing

- Selected as part of UniBO’s teaching personnel, and as an expert on LLM, ML, and AI
- Nominated by the Rector, Prot. n. 0207300 del 21/07/2022 — Decreti 1232/2024

Master Programme Committees

Cesena Campus

2024 → Ongoing

University of Bologna

- For the Master’s Degree in Computer Science and Engineering, Cesena, Italy
 - quality assurance committee (“commissione AQ”), periodically assessing the quality of the teaching activities
 - didactical committee (“commissione didattica”), responsible for the organization of the teaching activities
 - international relationships committee (“commissione relazioni internazionali”), responsible for selecting and supporting international students
- For the Master’s Degree in Digital Transformation and Management, Cesena and Forlì, Italy
 - students formalities committee (“commissione pratiche studenti”), responsible for admitting students from other programmes

Supervised Theses

Bachelor and Master Theses

2022 → Ongoing

University of Bologna

• Details at: <https://apice.unibo.it/xwiki/bin/view/GiovanniCiatto/Theses/PerStatus?role=supervisor>

1. Valerio Di Zio: “FairLib: A Toolkit for Bias Analysis and Mitigation in AI Systems”
2. Riccardo Battistini: “Exploiting GenAI for Plan Generation in BDI Agents”
3. Mattia Matteini: “Addressing Fairness in AI Systems: Design and Development of a Pragmatic (Meta-)Methodology”
4. Barnia Boukila: “Leveraging AI for Enhanced Decision-Making in Humanitarian and NGOs sectors across Europe, Africa, and Latin America: A Case Study of Propel”
5. Mattia Broglia: “Decision-Making in Complex Systems Through Simulation Modeling: a Vaccine Supply Chain Case Study”
6. Santiago Trivelloni: “Innovating HR Systems: The Digital Transformation of Trevi Group”
7. Alberto Donati: “Overview, study, and comparison of open source automation tools: Ansible, Salt, Chef, Puppe”
8. Antonio Iannotta: “Fair-by-Design Workflow for Unbiased AI Development and Equitable Outcomes”
9. Christian D’Errico: “An Abductive Platform for Salient Neurons Identification”
10. Lorenzo Osimani: “Bridging Logic Programming with platform-independent distributed services”
11. Martina Baiardi: “JACOP: Programming BDI Agents with Pluggable Concurrency Model”
12. Giulia Brugnatti: “Model-Based Contrastive Explanations for XAIP: Towards a General Model and Prototype”

Co-Supervised Theses

Bachelor and Master Theses

2017 → Ongoing

University of Bologna

• Details at: <https://apice.unibo.it/xwiki/bin/view/GiovanniCiatto/Theses/PerStatus?role=cosupervisor>

1. Bruna Moema Dias Bahmed: “Integrated Development Environments: Exploring the Impact of the Implementation of Artificial Intelligence on Workflow Efficiency and its Potential for Developer Displacement”
2. Matteo Lanzi: “Programmazione multi-piattaforma: disamina storica e tecnologica”
3. Giuseppe Boezio: “Extending the 2P-Kt ecosystem: CLP and Labelled LP”
4. Luca Nannini: “Logic ecosystems meet meta-interpretative learning: design and experiments on 2p-Kt”
5. Andrea Giordano: “Extending the 2P-Kt ecosystem with Concurrent Logic Programming support”
6. Giovanni Speciale: “Il Ragionamento Logico come Forma di Apprendimento: Sviluppo di Un Framework per ILP”
7. Cristiano Aprigliano: “Hyperledger: Architettura, Struttura e Tecnologie applicate alla Blockchain”
8. Jason Dellaluce: “Enhancing Symbolic AI Ecosystems with Probabilistic Logic Programming: a Kotlin Multi-Platform Case Study”
9. Marco Pastore: “Spatial Tuples nel mondo reale: il caso di Unity e Google Maps”
10. Maicol Forti: “Logic Reasoning in BDI Agents: Current Trends and Spatial Integrations”
11. Shapour Nemat: “Engineering Angle-of-Arrival-based Indoor Localization Systems”
12. Matteo Castiglio: “Integrazione tra Programmazione Logica e Reti Neurali: esperimenti in 2p-Kt”
13. Federico Sabbatini: “Interpretable Prediction of Galactic Cosmic-Ray Short-Term Variations with Artificial Neural Networks”
14. Riccardo Varotto: “Serializzazione di termini logici: progetto e sviluppo in tuProlog, JSON e YAML”
15. Ilaria Crivellari: “Progetto e sviluppo di un modulo per la persistenza di clausole logiche: esperimenti in tuProlog-Kotlin”
16. Andrea Dipietro: “Progettazione e implementazione di un’interfaccia Android per il motore Prolog 2P-Kt”

17. Giuseppe Pisano: “AI simbolica e sub-simbolica per XAI: stato dell’arte ed esperimenti con reti neurali e vincoli logici”
18. Mariano Caldara: “Gradle, Kotlin e lo sviluppo di un’applicazione multiplatforma”
19. Matteo Minardi: “Analisi comparata di tecnologie open-source per l’elaborazione di flussi di dati”
20. Enrico Siboni: “2p-Kt: A Kotlin-based, Multi-Platform Framework for Symbolic AI”
21. Filippo Nicolini: “Simulazione di Agenti BDI basati su Prolog in Alchemist”
22. Jason Dellaluce: “Progettazione di un framework integrato per tecniche sub-simboliche e simboliche: Verso l’eXplainable AI”
23. Matteo Saccomanni: “Blockchain e Internet of Things: realizzazione di un’applicazione decentralizzata per l’affitto di case vacanza”
24. Ashley Caselli: “Logic-based coordination: a semantic approach to self-composition of services”
25. Andrea Cardiot: “Tecnologia Blockchain: un’analisi tecnica e sviluppo di un’applicazione decentralizzata”
26. Alfredo Maffi: “Blockchain and beyond: proactive logic smart contracts”
27. Alessandro Contro: “Multi-sensing Data Fusion: Target tracking via particle filtering”
28. Edoardo Antonini: “Testing automatico per una implementazione dello standard OpenGL”
29. Lorenzo Rizzato: “Coordination as a Web Service: una moderna implementazione del modello Linda”
30. Alex Collini: “Blockchain: modello generale e tassonomia delle componenti chiave”
31. Nicola Atti: “La programmazione logica per l’Internet of Things: il caso di studio del frigorifero intelligente”

Students Representative in Department Executive Board **Sept., 2019 → June, 2022**
Dep. of Computer Science and Engineering (DISI) *University of Bologna*

· <https://disi.unibo.it/it/dipartimento/organizzazione/organ-di-dipartimento>

PhD students Representative in Department Council **July, 2019 → June, 2022**
Dep. of Computer Science and Engineering (DISI) *University of Bologna*

· <https://disi.unibo.it/it/Dipartimento/il-consiglio-di-dipartimento>

PhD students Representative in PhD Programme Board **June, 2019 → April, 2021**
PhD “Data Science and Computation” Programme *University of Bologna*

· Reference: Prof. Andrea Cavalli, PhD Programm Coordinator

INVITED TALKS

Lecturer at Kutaisi International University **July 2025**
School on Symbolic and Statistical Methods for Reasoning and Processing Formal Expressions Kutaisi, Georgia

- Title: “Symbolic Knowledge Extraction and Injection: Theory and Methods”
- Topic: Concepts and algorithms about symbolic knowledge extraction and injection
- <https://europroofnet.github.io/Kutaisi25/>
- References: Dr. Besik Dundua

Lecturer UniBo’s Seminar series on AI **Feb. 2025**
‘For an ethical and responsible use of Generative AI: bridging knowledge and applications’ Bologna

- Seminar title: “Generative Artificial Intelligence: Technologies and Use Cases”
- <https://www.unibo.it/it/ateneo/chi-siamo/intelligenza-artificiale/Rassegna-AI>

Lecturer at EASSS **July 2023**
23rd European Agent Systems Summer School *Prague, Czech Republic*

- Title: “On the role of computational logic in MAS: practice with 2P-Kt”
- Topic: tutorial about computational logic, and how to design and implement reasoning agents
- <https://easss23.pages.fit/programme.html>

Tutorial lecturer at PRIMA

24th *International Conference on Principles and Practice of Multi-Agent Systems*

Nov. 2022

Valencia, Spain

- Title: “Reusable Technologies for Explainable Autonomous Systems”
- Topic: tutorials about Symbolic Knowledge Extraction and Injection tools
- <https://prima2022.webs.upv.es/tutorials/>
- References: Dr. Reyhan Aydogan

Lecturer at WOA 2018 Doctoral School

19th *Workshop From Objects to Agents (WOA)*

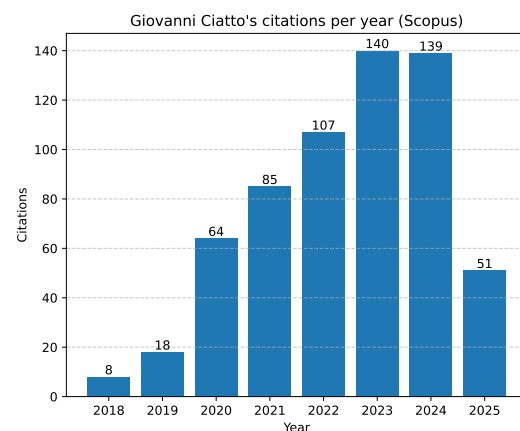
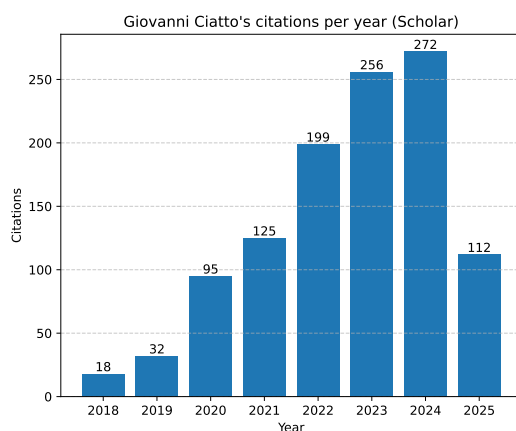
June 27, 2018

Palermo, Italy

- Talk title: “Blockchain & Smart Contracts: Basics and Perspectives for MAS”
- Reference: <http://diid.unipa.it/roboticslab/woa2018/index.php/mini-school>

SCIENTIFIC ACTIVITY

BIBLIOMETRIC DATA



Google Scholar

sampled on July 13, 2025

- Source: <https://scholar.google.it/citations?user=pLlR0lkAAAAJ>
- Citations: 1116 (total), 1062 (last 5 years)
- H-index: 19 (total), 19 (last 5 years)
- i10-index: 29 (total), 28 (last 5 years)

Scopus

sampled on July 13, 2025

- Source: <https://www.scopus.com/authid/detail.uri?authorId=59454539900>
- Citations: 668 (total), 586 (last 5 years)
- H-index: 13 (total), 12 (last 5 years)
- i10-index: 18 (total), 17 (last 5 years)

EDITING ACTIVITY IN SCIENTIFIC JOURNALS

Early-Career Editorial Board Member of Applied Sciences

2025 → Ongoing

- “Applied Sciences” Journal
- www.mdpi.com/journal/applsci/editors

Guest Editor of Applied Sciences**2024 → 2026***Special Issue on Emerging Techniques in Engineering Intelligent Agents and MAS*

- “Applied Sciences” Journal
- https://www.mdpi.com/journal/applsci/special_issues/36128MORBR

Guest Editor of JAAMAS**2023***Special Issue on MAS and xAI*

- Journal of “Agents and Multi-Agent Systems” (JAAMAS)
- <https://link.springer.com/collections/dgfhchdehbb>
- CfP: <https://www.springer.com/journal/10458/updates/25215240>

Area Editor for the ACL Newsletter**Aug., 2022 → Ongoing***The electronic newsletter of the Association for Logic Programming*

- Area: “Programming methodology and software engineering”
- <https://g61.5e4.myftpupload.com/the-association-for-logic-programming/alp-newsletters/>
- References: Prof. Agostino Dovier, Enrico Pontelli

Guest Editor of IA**Sept., 2021***WOA Special Issue*

- “Intelligenza Artificiale” Journal
- <https://www.iospress.com/catalog/journals/intelligenza-artificiale>
- Edited volume: [Cal+22]
- <https://journals.sagepub.com/toc/inaa/16/1>

CHAIR ACTIVITY IN WORKSHOPS AND CONFERENCES**Program Chair of ANSyA 2025****Oct. 26, 2025**

- 1st International Workshop on Advanced Neuro-Symbolic Applications
- <https://ansya-workshop.github.io/2025/>
- Co-located with ECAI 2025 (<https://ecai2025.org/workshops/>)

Program Chair of LoStaN 2025**Sep. 1–5, 2025**

- 1st International Workshop on Logic, Statistical and Neural AI
- <https://lostan-workshop.github.io/2025/>
- Co-located with JELIA 2025 (<https://viam.science.tsu.ge/jelia2025/>)

Program Chair of WOA 2025**Jul. 3–4, 2025**

- 26th Workshop From Objects to Agents
- <https://sites.google.com/view/woa2025>

Organizing Chair of CILC 2022**Jun. 29 – Jul. 1, 2022***Blended Workshop**Bologna, Italy*

- 37th Italian Conference on Computational Logic
- <http://cilc2022.apice.unibo.it/>
- Edited proceedings: [CCO22]

Track chair of EXTRAAMAS 2022**May 9–13, 2022***Workshop, co-hosted by AAMAS 2022**Auckland, New Zealand*

- Special Track on “The chist-ERA of XAI”

- “4th International Workshop on EXplainable and TRAnsparent AI and Multi-Agent Systems
- <https://extraamas.ehealth.hevs.ch/>

Program Chair of WOA 2021

Blended Workshop

Sept. 1–3, 2021

Bologna, Italy

- 22th Workshop “From Objects to Agents”
- <http://woa2021.apice.unibo.it/>
- Edited proceedings: <http://ceur-ws.org/Vol-2963>

Publicity Chair of EXTRAAMAS 2021

Virtual Workshop, co-hosted by AAMAS 2021

May 3–7, 2021

London, UK

- 21th International Workshop on EXplainable and TRAnsparent AI and Multi-Agent Systems
- Proceedings: <https://link.springer.com/book/10.1007%2F978-3-030-82017-6>, Homepage: <https://extraamas.ehealth.hevs.ch/>

Program Chair of WOA 2020

Virtual Workshop

Sept. 14–16, 2020

Bologna, Italy

- 21th Workshop “From Objects to Agents”
- Proceedings: <http://ceur-ws.org/Vol-2706>, Homepage: <http://woa2020.apice.unibo.it/>

PEER-REVIEW SERVICE AND PROGRAM COMMITTEE MEMBERSHIP

Program Committee Membership in International Conferences

2019 → Present

- European Conference on Artificial Intelligence (ECAI): 2025, 2024, 2022
- International Joint Conference on Artificial Intelligence (IJCAI): 2024, 2022, 2020, 2019
- Explainable AI Conference (XAI): 2025, 2024
- European Conference on Multi-Agent Systems (EUMAS): 2024, 2023
- International Conference on Autonomous Agents and Multiagent Systems (AAMAS): 2025, 2024, 2023, 2022, 2021, 2020
- International Conference on Principles and Practice of Multi-Agent Systems (PRIMA): 2022, 2019
- Annual AAAI Conference on Artificial Intelligence (AAAI) 2025, 2024, 2023
- International Conference on Principles of Knowledge Representation and Reasoning (KR) 2023, 2022
- International Conference on Human-Machine Systems (ICMS): 2021

Reviewer for Journals

2019 → Present

- Journal of Artificial Intelligence Research (JAIR)
- Journal of Autonomous Agents and Multi-Agent Systems (JAAMAS)
- ACM Computing Surveys (CSUR)
- Springer Nature Computer Science (SNCS)
- Springer Nature Machine Learning (SNML)
- Future Generation Computer Systems (FGCS) – Elsevier
- Computer Methods and Programs in Biomedicine (CMPB) – Elsevier
- Scientific Programming – Hindawi
- Patterns – Elsevier
- Sensors – MDPI
- Applied Sciences – MDPI
- Information – MDPI
- Intelligenza Artificiale – IOS Press

ACTIVITY RELATED TO COMPETITIVE PROJECTS

AEQUITAS (G.A. 101070363)

Co-WP Leader

Nov. 2022 → Oct. 2025

WP5 – Methodology sub-component

- Project Coordinator: Roberta Calegari
- Co-WP leadership shared with: Andrea Borghesi
- Project Web-site: <https://www.aequitas-project.eu/>

EXPECTATION (G.A. CHIST-ERA-19-XAI-005)

WP-Leader

Apr. 2021 → Mar. 2024

WP5 – Modelling INTRA-Agent explainability

- Principal Investigator: Prof. Michael Ignaz Schumacher
- Italian Partners' Scientific & Technical Coordinator: Prof. Andrea Omicini
- Project Web-site: <https://expectation.ehealth.hevs.ch>

FAIR – FUTURE AI RESEARCH – “PARTENARIATO ESTESO SULL’INTELLIGENZA ARTIFICIALE”
(FAIR-PE01-SP08, PE00000013)

Member of FAIR

Mar. 2023 → Feb. 2026

Spoke 8 “Pervasive AI”

- The project funded my Junior Assistant Professor (“RTD-A”) position at UniBO
- Principal Investigator: Prof. Michela Milano
- Project Web-site: <https://fondazione-fair.it/spoke/spoke-8-pervasive-ai/>

TEACHING ACTIVITY

PHD COURSES

Course “Multi-platform Programming for Research-Oriented Software”

2022, 2024

Dept. of Computer Science and Engineering

University of Bologna, Italy

- Topics: Multiplatform programming, cross-platform development, Kotlin multiplatform, programming platforms and languages, etc.
- Programme: PhD Programme in Computer Science and Engineering, Bologna, Italy
- Language: English
- Course Info:
 - Course edition: A.Y. 24–25, Overall credits: 2.4, My teaching hours: 12h
 - Course edition: A.Y. 22–23, Overall credits: 2, My teaching hours: 10h

Course “Containerisation and Orchestration for Research Reproducibility”

2024

Dept. of Computer Science and Engineering

University of Bologna, Italy

- Topics: Containerization, Virtualization, orchestration, Docker, Docker compose, and related notions.
- Programme: PhD Programme in Computer Science and Engineering, Bologna, Italy
- Language: English
- Course Info:
 - Course edition: A.Y. 24–25, Overall credits: 2.4, My teaching hours: 12h

Responsibility of the course “Software Engineering”

School of Engineering and Architecture

2023 → Ongoing

University of Bologna, Italy

- Topics: fundamentals of software engineering, software project organization, testing, distributed version control, continuous integration, and deployment, modelling, object-oriented programming, etc.
- Programme: Master’s Degree in Digital Transformation and Management, Cesena and Forlì, Italy
- Language: English
- Course Info:
 - Course edition: A.Y. 24–25, Overall ECTS: 6, My teaching hours: 51h, ASA*: not available yet / 13
 - Course edition: A.Y. 23–24, Overall ECTS: 6, My teaching hours: 34h, ASA*: 79.2% / 13

Teacher of the course “Intelligent System Engineering” (Module 2)

School of Engineering and Architecture

2021 → Ongoing

University of Bologna, Italy

- Topics: computational models, methods, and technologies for the engineering of intelligent agents and intelligent systems
- Programme: Master’s Degree in Computer Science and Engineering, Cesena, Italy
- Language: English
- Teacher responsible for the course: Prof. Andrea Omicini
- Course Info:
 - Course edition: A.Y. 24–25, Overall ECTS: 6, My teaching hours: 15h, ASA*: not available yet / 13 students
 - Course edition: A.Y. 23–24, Overall ECTS: 6, My teaching hours: 10h, ASA*: 100% / 10 students
 - Course edition: A.Y. 22–23, Overall ECTS: 6, My teaching hours: 20h, ASA*: not released / 7 students
 - Course edition: A.Y. 21–22, Overall ECTS: 6, My teaching hours: 20h, ASA*: not released / 10 students

Teacher of the course “Distributed Systems” (Module 2)

School of Engineering and Architecture

2022 → Ongoing

University of Bologna, Italy

- Topics: distributed architectures, ReSTfull Web-Services, Containers, Agent-based technologies and middlewares
- Programme: Master’s Degree in Computer Science and Engineering, Cesena, Italy
- Language: English (since 2023), Italian (before)
- Teacher responsible for the course: Prof. Andrea Omicini
- Course Info:
 - Course edition: A.Y. 24–25, Overall ECTS: 6, My teaching hours: 15h, ASA*: 80.5% / 41 students
 - Course edition: A.Y. 23–24, Overall ECTS: 6, My teaching hours: 20h, ASA*: 89.3% / 28 students
 - Course edition: A.Y. 22–23, Overall ECTS: 6, My teaching hours: 20h, ASA*: 84.1% / 46 students

Teacher of the course “Software Process Engineering” (Module 2)

School of Engineering and Architecture

2023 → Ongoing

University of Bologna, Italy

- Topics: advanced aspects of software engineering: domain- and model-driven design, containerization and orchestration, multi-platform programming, etc.
- Programme: Master’s Degree in Computer Science and Engineering, Cesena, Italy
- Language: English
- Teacher responsible for the course: Prof. Danilo Pianini
- Course Info:
 - Course edition: A.Y. 24–25, Overall ECTS: 6, My teaching hours: 30h, ASA*: 100% / 10 students

*Average students’ appreciation percentage according to students’ feedback collected by the University of Bologna

- Course edition: A.Y. 23–24, Overall ECTS: 6, My teaching hours: 30h, ASA*: 90.5% / 21 students

Teacher of the course “Principles of Informatics” (Module 2)

2021 → 2023

School of Engineering and Architecture

University of Bologna, Italy

- Topics: programming in C Fundamentals: control structures, functions, arrays, pointers
- Programme: Bachelor Degree in Biomedical Engineering, Cesena, Italy
- Language: Italian
- Teacher responsible for the course: Prof. Roberto Casadei
- Course Info:
 - Course edition: A.Y. 22–23, Overall ECTS: 6, My teaching hours: 30h, ASA*: 83.5% / 103 students
 - Course edition: A.Y. 21–22, Overall ECTS: 6, My teaching hours: 30h, ASA*: 88.8% / 125 students

UNIVERSITY, TEACHING ASSISTANCE

Teaching assistant of the course “Distributed Systems”

2017 → 2022

School of Engineering and Architecture

University of Bologna, Italy

- Topics: distributed architectures, ReSTfull Web-Services, Containers, Agent-based technologies and middlewares
- Programme: Master’s Degree in Computer Science and Engineering, Cesena, Italy
- Language: Italian
- Teacher responsible for the course: Prof. Andrea Omicini
- Course Info:
 - Course edition: A.Y. 21–22, Overall ECTS: 6, My teaching hours: 20h
 - Course edition: A.Y. 20–21, Overall ECTS: 6, My teaching hours: 20h
 - Course edition: A.Y. 19–20, Overall ECTS: 6, My teaching hours: 20h
 - Course edition: A.Y. 18–19, Overall ECTS: 6, My teaching hours: 20h
 - Course edition: A.Y. 17–18, Overall ECTS: 6, My teaching hours: 20h

Teaching assistant of the course “Autonomous Systems”

2018 → 2021

School of Engineering and Architecture

University of Bologna, Italy

- Topics: computational models, methods, and technologies for the engineering of autonomous agents
- Programme: Master’s Degree in Computer Science and Engineering, Cesena, Italy
- Language: English (since 2020), Italian (before)
- Teacher responsible for the course: Prof. Andrea Omicini
- Course Info:
 - Course edition: A.Y. 20–21, Overall ECTS: 6, My teaching hours: 20h
 - Course edition: A.Y. 19–20, Overall ECTS: 6, My teaching hours: 20h
 - Course edition: A.Y. 18–19, Overall ECTS: 6, My teaching hours: 20h

MASTERS

Lecturer at Advanced School in Artificial Intelligence

July 25, 2023

- Talk title: “Intelligent Agents: A Gentle Introduction” (4h)

Lecturer at Bologna Business School

May 23, 2023

- Talk title: “eXplainable Artificial Intelligence (XAI) A Gentle Introduction”
- 8h, sharing the stage with 2 more speakers

Lecturer at Bologna Business School

Amadori Graduate Program

Nov. 14-15, 2018

Bologna, Italy

- Talk title: “Blockchain & Smart Contracts: What are they? Do we need them?” (4h)

INDUSTRY

Teacher of the course “ENG18 – Basic OO Programming in C#”

IMA S.p.A.

2022, 2023, 2024

Bologna, Italy

- .NET solution and project management, collections and exceptions in .NET, advanced mechanisms of C#
- IMA Web site: <https://ima.it>
- Reference: formazione@ima.it

Teacher of the course “ENG19 – Advanced OO Programming in C#”

IMA S.p.A.

2021, 2023

Bologna, Italy

- Test-driven development in .NET, OOP Design patterns, domain driven design, concurrency and multithreading in .NET
- IMA Web site: <https://ima.it>
- Reference: formazione@ima.it

Teacher at professional education course

IFTS course by FORMart

2019, 2020

Cesena, Italy

- Talks topics: Cloud Computing and Blockchain Technologies
- References: Prof. Alessandro Ricci

TALKS IN CONFERENCES OR WORKSHOPS

- Presentation of [Cia+25b] (dissemination track) @ WOA 2025, 03/07/2025
- Presentation of [CCC22] @ CILC 2022, 01/08/2022
- Presentation of [DCC22] @ AIxIA 2021, 01/12/2021
- Presentation of [CCO21b] @ JELIA 2021, 17/05/2021
- Presentation of [Cia+20a] @ WOA 2020, 16/09/2020
- Presentation of [Cia+20b] @ AAMAS 2020, 09/05/2020
- Presentation of [Cia+19b] @ AI&IoT 2019 (Co-located with AIxIA 2019), 22/11/2019
- Presentation of [Cia+19d] @ ICCCN 2019, 01/08/2019
- Presentation of [Cia+19c] @ PAAMS'19, 27/06/2019
- Presentation of [Cia+20d] @ BLOCKCHAIN'19, 27/06/2019
- Presentation of [Cia+19a] @ BCT4MAS 2019 (Co-located with PAAMS'19), 26/06/2019
- Presentation of [Cal+18c] @ GlobeIOT 2018 (Co-located with IC2E 2018), April 2018
- Presentation of [CMO18a] @ BCT4MAS 2018 (Co-located with WI 2018), 03/12/2018
- Presentation of [Pia+18] @ GOODTECHS 2018, 28/11/2018
- Presentation of [Cia+18a] @ WOA 2018, 29/06/2018
- Presentation of [Cal+18a] @ WOA 2018, 29/06/2018

AWARDS AND RECOGNITIONS

Best Paper Award for paper [Mag+25]

TELMED @ PerComm

2025

Washington DC, USA

- organizers: Piero Castoldi, Scuola Superiore Sant'Anna, Pisa (Italy); Anna Lina Ruscelli, Scuola Superiore Sant'Anna, Pisa (Italy); Lorenzo Mucchi, University of Florence, Florence (Italy); Matti Hämäläinen, University of Oulu (Finland)

Best Paper Award for paper [Bai+24d]
EMAS @ AAMAS

2024

Auckland, New Zeland

- organizers: Daniela Briola, University of Milano-Bicocca (Italy); Rafael C. Cardoso, University of Aberdeen (UK); Brian Logan, Utrecht University (The Netherlands)

Best Paper Award for paper [Cal+18c]
GlobeIOT @ IC2E

2018

Orlando, Florida, USA

- organizers: Giancarlo Fortino, University of Calabria and Sensyscal S.r.l. (Italy); Carlos E. Palau, Universitat Politècnica de Valencia (Spain); Min Chen, Huazhong University of Science and Technology (China); Mengchu Zhou, New Jersey Institute of Technology (USA); Noel Crespi, Institut Mines-Telecom (France)

OTHER ACTIVITIES

System Engineer

2022

StairwAI European Project

Cesena, Italy

- Summary: operating a cluster of Huawei servers via Docker
- References: Prof. Michela Milano, Eng. Enrico Fiumana

DEVELOPMENT OF RESEARCH-RELATED SOFTWARE

tuProlog (2P) [CCO21a]

April, 2019 → Ongoing

- A logic programming framework supporting multi-paradigm programming via a clean, seamless, and bidirectional integration between the logic and object-oriented paradigms
- <http://tuprolog.unibo.it>
- <https://github.com/tuProlog/2p-kt>

TuSoW [Cia+19d]

December, 2018 → Ongoing

- Tuple Spaces over the Web: a framework for the coordination of distributed software agents via LINDA-like tuple spaces
- <https://github.com/CoordaaS/TuSoW>

2ppy (2P in Python)

Sept., 2021 → Ongoing

- Porting of 2P on Python
- <https://github.com/tuProlog/2ppy>

Psyke [Sab+21]

October, 2021 → Ongoing

- Platform for Symbolic Knowledge Extraction (in the form of logic rules) out of sub-symbolic predictors
- <https://github.com/psykei/psyke-python>

Psyki [Sab+21]

Feb, 2022 → Ongoing

- Platform for Symbolic Knowledge Injection (in the form of logic rules) into neural networks
- <https://github.com/psykei/psyki-python>

LANGUAGE SELF-ASSESSMENT

	Listening	Reading	Interaction	Speaking	Writing
Italian	Native language				
English	C1	C1	C1	C1	C1
French	B1	B1	A1	A1	B1

TECHNICAL STRENGTHS

Hardware configuration	Desktop & notebook PCs assembling
Programming Paradigms	imperative, object-oriented, functional, logic, constraint programming
Software configuration	Windows, MacOS, and Linux installation and configuration
Programming Languages	Java, Scala, Xtend, C# & VB.Net, Haskell, Prolog, JavaScript, C, Python, Minizinc, COBOL, Kotlin
Data Analysis Tools	Python, Pandas, NumPy, SciKit-learn, Matplotlib, PyTorch, Keras
Networking	Socket (TCP & UDP), HTTP, RESTful WebAPI
Databases	SQL, PostgreSQL, MySQL, IBM Informix, SQLite, MongoDB, Neo4J
Development tools	Git, Maven, Gradle, Swagger, Xtext, ANTLR, NPM, Poetry, Dotnet
Markup languages	XML, HTML, Markdown, L ^A T _E X
IDEs	Eclipse, IntelliJ Idea, Visual Studio (Code), Android Studio, PyCharm
System administration	Docker, Kubernetes, Ansible, SSH, Proxmox, VSphere, ESXI, VirtualBox

Giovanni Ciatto, July 13, 2025



Articles in Journals

- [Agi+23] Andrea Agiollo, Andrea Rafanelli, Matteo Magnini, Giovanni Ciatto, and Andrea Omicini. “Symbolic knowledge injection meets intelligent agents: QoS metrics and experiments”. In: *Auton. Agents Multi Agent Syst.* 37.2 (2023), p. 27. DOI: 10.1007/S10458-023-09609-6.
- [Bai+24a] Martina Baiardi, Samuele Burattini, Giovanni Ciatto, and Danilo Pianini. “Blending BDI Agents with Object-Oriented and Functional Programming with JaKtA”. In: *SN Comput. Sci.* 5.8 (2024), p. 1003. DOI: 10.1007/S42979-024-03244-Y.
- [Cal+18b] Roberta Calegari, Giovanni Ciatto, Stefano Mariani, Enrico Denti, and Andrea Omicini. “LPaaS as Micro-intelligence: Enhancing IoT with Symbolic Reasoning”. In: *Big Data and Cognitive Computing* 2.3 (2018). DOI: 10.3390/bdcc2030023.
- [Cal+20a] Roberta Calegari, Giovanni Ciatto, Enrico Denti, and Andrea Omicini. “Logic-based Technologies for Intelligent Systems: State of the Art and Perspectives”. In: *Information* 11.3 (Mar. 2020). Ed. by Willy Susilo. Special Issue “10th Anniversary of Information—Emerging Research Challenges”, pp. 1–29. ISSN: 2078-2489. DOI: 10.3390/info11030167.
- [Cal+21b] Roberta Calegari, Giovanni Ciatto, Viviana Mascardi, and Andrea Omicini. “Logic-based Technologies for Multi-agent Systems: A Systematic Literature Review”. In: *Autonomous Agents and Multi-Agent Systems* 35.1 (2021). Ed. by Federico Bergenti, Matteo Baldoni, Michael Winikoff, and Amal El Fallah Seghrouchni. Collection “Current Trends in Research on Software Agents and Agent-Based Software Development”, 1:1–1:67. ISSN: 1387-2532. DOI: 10.1007/s10458-020-09478-3.
- [CCO20] Roberta Calegari, Giovanni Ciatto, and Andrea Omicini. “On the integration of symbolic and sub-symbolic techniques for XAI: A survey”. In: *Intelligenza Artificiale* 14.1 (2020). Ed. by Matteo Baldoni, Federico Bergenti, Stefania Monica, and Giuseppe Vizzari, pp. 7–32. DOI: 10.3233/IA-190036.
- [CCO21a] Giovanni Ciatto, Roberta Calegari, and Andrea Omicini. “2P-Kt: A Logic-Based Ecosystem for Symbolic AI”. In: *SoftwareX* 16 (Dec. 2021), 100817:1–7. ISSN: 2352-7110. DOI: 10.1016/j.softx.2021.100817. URL: <https://www.sciencedirect.com/science/article/pii/S2352711021001126>.
- [Cia+20c] Giovanni Ciatto, Giovanna Di Marzo Serugendo, Maxime Louvel, Stefano Mariani, Andrea Omicini, and Franco Zambonelli. “Twenty Years of Coordination Technologies: COORDINATION contribution to the State of Art”. In: *Journal of Logical and Algebraic Methods in Programming* 113 (June 2020). Ed. by Rocco De Nicola, pp. 1–25. ISSN: 2352-2208. DOI: 10.1016/j.jlamp.2020.100531.
- [Cia+20e] Giovanni Ciatto, Stefano Mariani, Alfredo Maffi, and Andrea Omicini. “Blockchain-Based Coordination: Assessing the Expressive Power of Smart Contracts”. In: *Information* 11.1 (Jan. 2020). Ed. by Davide Calvaresi, Alevtina Dubovitskaya, Michael Schumacher, and Kuldar Taveter. Special Issue “Blockchain Technologies for Multi-Agent Systems”, pp. 1–20. ISSN: 2078-2489. DOI: 10.3390/info11010052.
- [Cia+20f] Giovanni Ciatto, Stefano Mariani, Andrea Omicini, and Franco Zambonelli. “From Agents to Blockchain: Stairway to Integration”. In: *Applied Sciences*. Advances in Blockchain Technology and Applications 2020 10.21 (2020). Ed. by Roberto Tonelli, Marco Ortu, and Andrea Pinna. Special Issue “Advances in Blockchain Technology and Applications 2020”, 7460:1–7460:22. ISSN: 2076-3417. DOI: 10.3390/app10217460.
- [Cia+24] Giovanni Ciatto, Federico Sabbatini, Andrea Agiollo, Matteo Magnini, and Andrea Omicini. “Symbolic Knowledge Extraction and Injection with Sub-symbolic Predictors: A Systematic Literature Review”. In: *ACM Comput. Surv.* 56.6 (2024), 161:1–161:35. DOI: 10.1145/3645103.

- [Cia+25a] Giovanni Ciatto, Andrea Agiollo, Matteo Magnini, and Andrea Omicini. “Large language models as oracles for instantiating ontologies with domain-specific knowledge”. In: *Knowl. Based Syst.* 310 (2025), p. 112940. DOI: 10.1016/J.KNOSYS.2024.112940.
- [CMO18b] Giovanni Ciatto, Stefano Mariani, and Andrea Omicini. “ReSpecTX: Programming Interaction Made Easy”. In: *Computer Science and Information Systems* 15.3 (Oct. 2018). Ed. by Costin Bădică and Bogdan Trawiński. Special Section: Contemporary Topics in Intelligent Distributed Computing, pp. 655–682. ISSN: 1820-0214. DOI: 10.2298/CSIS180111031C.
- [Kör+22] Philipp Körner, Michael Beuschel, João Barbosa, Vítor Santos Costa, Verónica Dahl, Manuel V. Hermenegildo, Jose F. Morales, Jan Wielemaker, Daniel Diaz, Salvador Abreu, and Giovanni Ciatto. “Fifty Years of Prolog and Beyond”. In: *Theory and Practice of Logic Programming* (2022), pp. 1–83. DOI: 10.1017/S1471068422000102.
- [Mag+23] Matteo Magnini, Giovanni Ciatto, Furkan Cantürk, Reyhan Aydogan, and Andrea Omicini. “Symbolic knowledge extraction for explainable nutritional recommenders”. In: *Comput. Methods Programs Biomed.* 235 (2023), p. 107536. DOI: 10.1016/J.CMPB.2023.107536.
- [MCO23] Matteo Magnini, Giovanni Ciatto, and Andrea Omicini. “Knowledge injection of Datalog rules via Neural Network Structuring with KINS”. In: *J. Log. Comput.* 33.8 (2023), pp. 1832–1850. DOI: 10.1093/LOGCOM/EXAD037.
- [Sab+22] Federico Sabbatini, Giovanni Ciatto, Roberta Calegari, and Andrea Omicini. “Symbolic knowledge extraction from opaque ML predictors in PSyKE: Platform design & experiments”. In: *Intelligenza Artificiale* 16.1 (July 2022). Ed. by Roberta Calegari, Giovanni Ciatto, Andrea Omicini, and Giuseppe Vizzari, pp. 27–48. ISSN: 1724-8035. DOI: 10.3233/IA-210120.
- [Sab+23] Federico Sabbatini, Giovanni Ciatto, Roberta Calegari, and Andrea Omicini. “Towards a unified model for symbolic knowledge extraction with hypercube-based methods”. In: *Intelligenza Artificiale* 17.1 (2023), pp. 63–75. DOI: 10.3233/IA-230001.

Paper in Proceedings

- [ACO21a] Andrea Agiollo, Giovanni Ciatto, and Andrea Omicini. “Graph Neural Networks as the Copula Mundi between Logic and Machine Learning: A Roadmap”. In: *WOA 2021 – 22nd Workshop “From Objects to Agents”*. Ed. by Roberta Calegari, Giovanni Ciatto, Enrico Denti, Andrea Omicini, and Giovanni Sartor. Vol. 2963. CEUR Workshop Proceedings. 22nd Workshop “From Objects to Agents” (WOA 2021), Bologna, Italy, 1–3 9 2021. Proceedings. Bologna, Italy: Sun SITE Central Europe, RWTH Aachen University, Oct. 2021, pp. 98–115. URL: <http://ceur-ws.org/Vol-2963/paper18.pdf>.
- [ACO21b] Andrea Agiollo, Giovanni Ciatto, and Andrea Omicini. “Shallow2Deep: Restraining Neural Networks Opacity through Neural Architecture Search”. In: *Explainable and Transparent AI and Multi-Agent Systems. Third International Workshop, EXTRAAMAS 2021, Virtual Event, May 3–7, 2021, Revised Selected Papers*. Ed. by Davide Calvaresi, Amro Najjar, Michael Winikoff, and Kary Främling. Vol. 12688. Lecture Notes in Computer Science. Basel, Switzerland: Springer Nature, 2021, pp. 63–82. ISBN: 978-3-030-82016-9. DOI: 10.1007/978-3-030-82017-6_5.
- [Bai+23] Martina Baiardi, Samuele Burattini, Giovanni Ciatto, and Danilo Pianini. “JaKtA: BDI Agent-Oriented Programming in Pure Kotlin”. In: *Multi-Agent Systems - 20th European Conference, EUMAS 2023, Naples, Italy, September 14-15, 2023, Proceedings*. Ed. by Vadim Malvone and Aniello Murano. Vol. 14282. Lecture Notes in Computer Science. Springer, 2023, pp. 49–65. DOI: 10.1007/978-3-031-43264-4_4.
- [Bai+24b] Martina Baiardi, Samuele Burattini, Giovanni Ciatto, Danilo Pianini, Andrea Omicini, and Alessandro Ricci. “Concurrency Model of BDI Programming Frameworks: Why Should We Control It?” In: *Proceedings of the 23rd International Conference on Autonomous Agents and Multiagent Systems, AAMAS 2024, Auckland, New Zealand, May 6-10, 2024*. Ed. by Mehdi Dastani, Jaime Simão Sichman, Natasha Alechina, and Virginia Dignum. International

Foundation for Autonomous Agents and Multiagent Systems / ACM, 2024, pp. 2147–2149. DOI: 10.5555/3635637.3663089.

- [Bai+24c] Martina Baiardi, Samuele Burattini, Giovanni Ciatto, Danilo Pianini, Alessandro Ricci, and Andrea Omicini. “On the External Concurrency of Current BDI Frameworks for MAS”. In: *Engineering Multi-Agent Systems - 12th International Workshop, EMAS 2024, Auckland, New Zealand, May 6-7, 2024, Revised Selected Papers*. Ed. by Daniela Briola, Rafael C. Cardoso, and Brian Logan. Vol. 15152. Lecture Notes in Computer Science. Springer, 2024, pp. 42–63. DOI: 10.1007/978-3-031-71152-7_3.
- [BCP23] Martina Baiardi, Giovanni Ciatto, and Danilo Pianini. “Infrastructures for the Edge-Cloud Continuum on a Small Scale: A Practical Case Study”. In: *IEEE International Conference on Autonomic Computing and Self-Organizing Systems, ACSOS 2023 - Companion, Toronto, ON, Canada, September 25-29, 2023*. IEEE, 2023, pp. 128–133. DOI: 10.1109/ACSOS-C58168.2023.00052.
- [Cal+18a] Roberta Calegari, Giovanni Ciatto, Stefano Mariani, Enrico Denti, and Andrea Omicini. “Logic Programming in Space-Time: The Case of Situatedness in LPaaS”. In: *WOA 2018 – 19th Workshop “From Objects to Agents”*. Ed. by Massimo Cossentino, Luca Sabatucci, and Valeria Seidita. Vol. 2215. CEUR Workshop Proceedings. Palermo, Italy: Sun SITE Central Europe, RWTH Aachen University, 29–30 6 2018, pp. 63–68.
- [Cal+18c] Roberta Calegari, Giovanni Ciatto, Stefano Mariani, Enrico Denti, and Andrea Omicini. “Micro-intelligence for the IoT: SE Challenges and Practice in LPaaS”. In: *2018 IEEE International Conference on Cloud Engineering (IC2E 2018)*. IEEE Computer Society, 17–20 4 2018, pp. 292–297. ISBN: 978-1-5386-5008-0. DOI: 10.1109/IC2E.2018.00061.
- [Cal+19a] Roberta Calegari, Giovanni Ciatto, Jason Dellaluce, and Andrea Omicini. “Interpretable Narrative Explanation for ML Predictors with LP: A Case Study for XAI”. In: *WOA 2019 – 20th Workshop “From Objects to Agents”*. Ed. by Federico Bergenti and Stefania Monica. Vol. 2404. CEUR Workshop Proceedings. Parma, Italy: Sun SITE Central Europe, RWTH Aachen University, 26–28 6 2019, pp. 105–112. URL: <http://ceur-ws.org/Vol-2404/paper16.pdf>.
- [Cal+19b] Roberta Calegari, Giovanni Ciatto, Enrico Denti, and Andrea Omicini. “Engineering Micro-intelligence at the Edge of CPCS: Design Guidelines”. In: *Internet and Distributed Computing Systems (IDCS 2019)*. Vol. 11874. Lecture Notes in Computer Science. Napoli, Italy: Springer, Oct. 2019, pp. 260–270. ISBN: 978-3-030-34913-4. DOI: 10.1007/978-3-030-34914-1_25.
- [Cal+21c] Roberta Calegari, Giovanni Ciatto, Viviana Mascardi, and Andrea Omicini. “Logic-based Technologies for Multi-agent Systems: Summary of a Systematic Literature Review”. In: *20th International Conference on Autonomous Agents and Multiagent Systems (AAMAS-2021)*. May 2021, pp. 1721–1723. ISBN: 978-1-4503-8307-3.
- [Cal+21d] Davide Calvaresi, Giovanni Ciatto, Amro Najjar, Reyhan Aydoğan, Leon Van der Torre, Andrea Omicini, and Michael I. Schumacher. “EXPECTATION: Personalized Explainable Artificial Intelligence for Decentralized Agents with Heterogeneous Knowledge”. In: *Explainable and Transparent AI and Multi-Agent Systems. Third International Workshop, EXTRAAMAS 2021, Virtual Event, May 3–7, 2021, Revised Selected Papers*. Ed. by Davide Calvaresi, Amro Najjar, Michael Winikoff, and Kary Främling. Vol. 12688. Lecture Notes in Computer Science. Basel, Switzerland: Springer Nature, 2021, pp. 331–343. ISBN: 978-3-030-82016-9. DOI: 10.1007/978-3-030-82017-6_20.
- [Cas+20] Ashley Caselli, Giovanni Ciatto, Giovanna Di Marzo Serugendo, and Andrea Omicini. “Engineering Semantic Self-composition of Services Through Tuple-Based Coordination”. In: *Leveraging Applications of Formal Methods, Verification and Validation: Engineering Principles*. Ed. by Tiziana Margaria and Bernhard Steffen. Vol. 12477. Lecture Notes in Computer Science. Cham: Springer International Publishing, 2020, pp. 205–223. ISBN: 978-3-030-61470-6. DOI: 10.1007/978-3-030-61470-6_13.
- [CCC22] Giovanni Ciatto, Matteo Castigliò, and Roberta Calegari. “Logic Programming library for Machine Learning: API design and prototype”. In: *CILC 2022 – Italian Conference on Com-*

- putational Logic*. Ed. by Roberta Calegari, Giovanni Ciatto, and Andrea Omicini. Vol. 3204. CEUR-WS, 2022, pp. 104–118. URL: http://ceur-ws.org/Vol-3204/paper_12.pdf.
- [CCO21b] Giovanni Ciatto, Roberta Calegari, and Andrea Omicini. “Lazy Stream Manipulation in Prolog via Backtracking: The Case of 2P-KT”. In: *Logics in Artificial Intelligence*. Ed. by Wolfgang Faber, Gerhard Friedrich, Martin Gebser, and Michael Morak. Vol. 12678. Lecture Notes in Computer Science. 17th European Conference, JELIA 2021, Virtual Event, May 17–20, 2021, Proceedings. Springer, 2021, pp. 407–420. DOI: 10.1007/978-3-030-75775-5_27.
- [CDD17] Giovanni Ciatto, Elisabetta De Maria, and Cinzia Di Giusto. “Spiking Neural Networks as Timed Automata”. In: *Proc. of the Thematic Research School on Advances in Systems and Synthetic Biology (ASSB)*. EDP Sciences, 2017, pp. 55–69. URL: <http://epigenomique.free.fr/en/index.php>.
- [Cia+18a] Giovanni Ciatto, Roberta Calegari, Stefano Mariani, Enrico Denti, and Andrea Omicini. “From the Blockchain to Logic Programming and Back: Research Perspectives”. In: *WOA 2018 – 19th Workshop “From Objects to Agents”*. Ed. by Massimo Cossentino, Luca Sabatucci, and Valeria Seidita. Vol. 2215. CEUR Workshop Proceedings. Sun SITE Central Europe, RWTH Aachen University, June 2018, pp. 69–74.
- [Cia+18b] Giovanni Ciatto, Stefano Mariani, Andrea Omicini, Franco Zambonelli, and Maxime Louvel. “Twenty Years of Coordination Technologies: State-of-the-Art and Perspectives”. In: *Coordination Models and Languages*. Ed. by Giovanna Di Marzo Serugendo and Michele Loreti. Vol. 10852. Lecture Notes in Computer Science. 20th IFIP WG 6.1 International Conference, COORDINATION 2018, Held as Part of the 13th International Federated Conference on Distributed Computing Techniques, DisCoTec 2018, Madrid, Spain, June 18–21, 2018. Proceedings. Springer, 2018, pp. 51–80. DOI: 10.1007/978-3-319-92408-3_3.
- [Cia+19a] Giovanni Ciatto, Michael Bosello, Stefano Mariani, and Andrea Omicini. “Comparative Analysis of Blockchain Technologies under a Coordination Perspective”. In: *Highlights of Practical Applications of Survivable Agents and Multi-Agent Systems. The PAAMS Collection*. Ed. by Fernando De La Prieta, Alfonso González-Briones, Pawel Pawleski, Davide Calvaresi, Elena Del Val, Fernando Lopes, Vicente Julian, Eneko Osaba, and Ramón Sánchez-Iborra. Vol. 1047. Communications in Computer and Information Science. Springer, June 2019. Chap. 7, pp. 80–91. ISBN: 978-3-030-24298-5. DOI: 10.1007/978-3-030-24299-2_7.
- [Cia+19b] Giovanni Ciatto, Roberta Calegari, Andrea Omicini, and Davide Calvaresi. “Towards XMAS: eXplainability through Multi-Agent Systems”. In: *AI&IoT 2019 – Artificial Intelligence and Internet of Things 2019*. Ed. by Claudio Savaglio, Giancarlo Fortino, Giovanni Ciatto, and Andrea Omicini. Vol. 2502. CEUR Workshop Proceedings. Sun SITE Central Europe, RWTH Aachen University, Nov. 2019, pp. 40–53.
- [Cia+19c] Giovanni Ciatto, Alfredo Maffi, Stefano Mariani, and Andrea Omicini. “Towards Agent-oriented Blockchains: Autonomous Smart Contracts”. In: *Advances in Practical Applications of Survivable Agents and Multi-Agent Systems: The PAAMS Collection*. Ed. by Yves Demazeau, Eric Matson, Juan Manuel Corchado, and Fernando De la Prieta. Vol. 11523. Lecture Notes in Computer Science. Springer International Publishing, June 2019, pp. 29–41. ISBN: 978-3-030-24208-4. DOI: 10.1007/978-3-030-24209-1_3.
- [Cia+19d] Giovanni Ciatto, Lorenzo Rizzato, Andrea Omicini, and Stefano Mariani. “TuSoW: Tuple Spaces for Edge Computing”. In: *The 28th International Conference on Computer Communications and Networks (ICCCN 2019)*. Valencia, Spain: IEEE, 29 7–1 8 2019. ISBN: 978-1-7281-1856-7. DOI: 10.1109/ICCCN.2019.8846916.
- [Cia+20a] Giovanni Ciatto, Roberta Calegari, Enrico Siboni, Enrico Denti, and Andrea Omicini. “2P-KT: logic programming with objects & functions in Kotlin”. In: *WOA 2020 – 21th Workshop “From Objects to Agents”*. Ed. by Roberta Calegari, Giovanni Ciatto, Enrico Denti, Andrea Omicini, and Giovanni Sartor. Vol. 2706. CEUR Workshop Proceedings. 21st Workshop “From Objects to Agents” (WOA 2020), Bologna, Italy, 14–16 9 2020. Proceedings. Bologna, Italy: Sun SITE Central Europe, RWTH Aachen University, Oct. 2020, pp. 219–236. URL: <http://ceur-ws.org/Vol-2706/paper14.pdf>.

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