europass Curriculum vitae

PERSONAL INFORMATION

Nicola Di Cicco

WORK EXPERIENCE

Nov. 2020 - Jun. 2021

Internship at NETLAB

DEI - University of Bologna
Viale del Risorgimento 2, Bologna, Italy

Python development, container management and orchestration (Docker, Kubernetes), SDN (OVS-SDN, Ryu, OpenStack), distributed architectures for microservices and automated service function chaining (Istio, Network Service Mesh). Supervisor: Prof. Walter Cerroni

EDUCATION AND TRAINING

Nov. 2021 - Current

PhD Student in Information Technology - Telecommunications

DEIB - Politecnico di Milano

Integrating Network Optimization and Machine Learning methodologies for large-scale optimization problems in future networks. Advisor: Prof. Massimo Tornatore

Sep. 2019 - Jul. 2021

M.Sc. in Telecommunications Engineering

University of Bologna

Thesis Title: "Scalable Algorithms for C-RAN Optimization". Advisors: Prof. Carla Raffaelli and Prof. Valentina Cacchiani

Sep. 2016 - Jul. 2019

B.Sc. in Electronics and Telecommunications Engineering

University of Bologna

Thesis Title: "Theoretical and Experimental Characterization of Optical Ring Resonators". Advisors: Prof. Paolo Bassi and Prof. Gaetano Bellanca

PERSONAL SKILLS

Mother tongue: Italian

Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1
	First Certificate in English (FCE), Grade A				
German	A1	A1	A1	A1	A1
Spanish	A1	A1	A1	A1	A1

Levels: A1 and A2: Basic user – B1 and B2: Independent user – C1 and C2: Proficient user
Common European Framework of Reference for Languages

Communication skills

- Teaching: during my PhD, I have taught laboratory of networking to both undegraduate and graduate students, receiving positive feedback.
- Public speaking: during my PhD, I have held several internal and invited seminars, receiving positive feedback both from the organizers and the audience

Organisational / managerial skills
- Graduate students supervision: I am currently supervising four graduate students for their master thesis, meeting with them once a week.
- Code management: I am creator and administrator of the Github profile of our research laboratory. I encouraged open-source and data sharing within our research group

Digital competences

SELF-ASSESSMENT				
Information Processing	Communication	Content creation	Safety	Problem solving
Proficient user	Proficient user	Proficient user	Proficient user	Proficient user

Digital competences - Self-assessment grid

Computer skills
- Proficient with Python and MATLAB. Familiar with C++
- Proficient in Machine Learning algorithms theory and implementation
- Proficient with Deep Learning programming frameworks (PyTorch, Tensorflow, JAX)
- Proficient in networking and container management (Docker, Kubernetes)

Driving license B

PUBLICATIONS

[1] **Nicola Di Cicco**, Valentina Cacchiani, and Carla Raffaelli. "Scalable Multi-objective Optimization of Reliable Latency-constrained Optical Transport Networks". In: *2021 17th International Conference on the Design of Reliable Communication Networks (DRCN)*. 2021.

[2] **Nicola Di Cicco**, Emre Furkan Mercan, Oleg Karandin, Omran Ayoub, Sebastian Troia, Francesco Musumeci, and Massimo Tornatore. "On Deep Reinforcement Learning for Static Routing and Wavelength Assignment". In: *IEEE Journal of Selected Topics in Quantum Electronics* 28.4 (2022).

[3] Abdullah Quran, Sebastian Troia, Omran Ayoub, **Nicola Di Cicco**, and Massimo Tornatore. "A Reinforcement Learning-Based Dynamic Bandwidth Allocation for XGS-PON Networks". In: *26th International Conference on Optical Network Design and Modeling (ONDM)*. 2022, pp. 1–3.

[4] **Nicola Di Cicco**, Federico Tonini, Valentina Cacchiani, and Carla Raffaelli. "Optimization over time of reliable 5G-RAN with network function migrations". In: *Computer Networks* 215 (2022), p. 109216.

[5] Omran Ayoub, **Nicola Di Cicco**, Fatima Ezzeddine, Federica Bruschetta, Roberto Rubino, Massimo Nardecchia, Michele Milano, Francesco Musumeci, Claudio Passera, and Massimo Tornatore. "Explainable Artificial Intelligence in communication networks: A use case for failure identification in microwave networks". In: *Computer Networks* 219 (2022), p. 109466.

[6] **Nicola Di Cicco**, Mëmëdhe Ibrahimi, and Masismo Tornatore. "Calibrated Probabilistic QoT Regression for Unestablished Lightpaths in Optical Networks". In: *5th International Balkan Conference on Communications and Networking (BalkanCom)*. 2022.