

Ruslan Bondaruc, Ph.D. Candidate

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Profile

Ph.D. Candidate in Computer Science at Università degli Studi di Milano, specializing in Cloud and Edge Computing. Researched on secure service deployment across Cloud-Edge-5G infrastructures, with a focus on security, privacy, and legislative aspects of computer systems. Enthusiastic about pursuing further research at the intersection of advanced distributed systems and security.

Education

- 10/2022 – 09/2025  **PhD Candidate in Computer Science**, Università degli Studi di Milano.
Research Project: *A Security-Driven Service Composition for Data-Intensive Pipelines in Cloud-Edge Continuum*.
- 10/2020 – 09/2022  **M.Sc. in Informatics Security**, Università degli Studi di Milano.
Thesis title: *An Advanced Security Assurance System for Edge/IoT Environments*.
Grade: 110/110 cum Laude.
- 10/2017 – 12/2020  **B.Sc. in Computer Systems and Networks Security**, Università degli Studi di Milano.
Thesis title: *Studio e Sviluppo di un'Architettura 5G per Sistemi di Intrusion Detection*.
Grade: 110/110 cum Laude.

Experience

- 01/2025 – 07/2025  **Industrial collaboration at Leonardo S.p.A.**, Università degli Studi di Milano & Leonardo S.p.A.
- Designed a reinforcement learning-based approach for service placement in the Cloud-Edge Continuum, optimizing deployments based on security properties.
- Defined a placement model capable of resource optimization while ensuring compliance with security requirements.
- 09/2024 – 08/2025  **UAE Rain Enhancement Project (UAEREP)**, Università degli Studi di Milano & Khalifa University.
- Containerized and orchestrated atmospheric data analysis and rain forecasting workflows for HPC environments.
- Deployed and optimized containerized workflows on high-performance computing (HPC) infrastructure.
- 10/2022 – 08/2025  **PNRR Multilayered Urban Sustainability Action (MUSA) project**, Università degli Studi di Milano.
- Designed service deployment strategies in the Cloud-to-5G Edge Continuum, integrating AWS and private cloud infrastructures.
- Engineered end-to-end service workflows using AWS Step Functions and EKS.
- Developed a deployment framework compatible with heterogeneous platforms.
- 10/2022 – 09/2025  **PhD in Computer Science**, Università degli Studi di Milano.
- Conducted original research combining literature analysis, experimentation, and prototyping.
- Supervised and mentored Bachelor's and Master's thesis students, providing guidance from project definition through final defense.
- Delivered tutoring support for the "Service-Oriented Architectures" course, assisting students and evaluating them in final exams.

Experience (continued)

03/2021 – 09/2022

- **Research scholarship “Orio Carlini” – Consortium GARR**, Università degli Studi di Milano.
 - Developed an IoT Security Assurance approach through Edge/5G Infrastructure.

Research Publications

Conference Proceedings

- 1 M. Anisetti, F. Berto, and **R. Bondaruc**, “Qos-aware Deployment of Service Compositions in 5G-empowered Edge-Cloud Continuum,” in *2023 IEEE CLOUD*, Chicago, USA, 2023.
- 2 **R. Bondaruc**, D. Cazzetta, and M. Anisetti, “Advanced IoT Edge Architecture for Smart City,” in *2023 17th International Conference on Signal-Image Technology & Internet-Based Systems (SITIS)*, Nov. 2023.
- 3 N. Bena, **R. Bondaruc**, and A. Polimeno, “Security Assurance in Modern IoT Systems,” in *IEEE VTC 2022-Spring*, Helsinki, FIN, Jun. 2022.
- 4 M. Anisetti, C. A. Ardagna, N. Bena, and **R. Bondaruc**, “Towards an Assurance Framework for Edge and IoT Systems,” in *2021 IEEE EDGE*, Guangzhou, CN, Dec. 2021.

Books and Chapters

- 1 M. Anisetti, C. A. Ardagna, M. Banzi, *et al.*, “MUSA: A Platform for Data-Intensive Services in Edge-Cloud Continuum,” in *Advanced Information Networking and Applications*, Cham: Springer Nature Switzerland, 2024.

Hard Skills

Operating Systems	■ Linux, Windows.
Coding	■ Python, Go, Java, C, Bash
Containerization and Orchestration	■ Docker, Docker Compose, Kubernetes, AWS EKS & Step Functions.
Cloud Computing	■ AWS EC2, Lambda, S3.
Versioning and CI/CD	■ Git, GitLab, GitHub, GitLab CI/CD, GitHub Actions.
Batch Systems	■ PBS.
Misc.	■ Academic research, teaching, supervising, \LaTeX typesetting and publishing.

Soft Skills

Languages	■ Italian: Mother tongue English: B2 French: A2
Communication	■ Good written and verbal communication skills; Good presentation and interpersonal abilities, gained during the university and research career.
Organization and management	■ Proclivity to project management and planning, consolidated during several team jobs carried out during the university career; Ability to work both in groups and independently.