Lorenzo Rinieri

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🏠 Via Decio Raggi 261, Forlì (FC) - 47121, Italy | 📅 09/07/1997

C.F. RNRLNZ97L09D704L

EDUCATION

• **Alma Mater Studiorum - Università di Bologna** *Nov 2022 – Nov 2025*
PhD in Computer Science and Engineering Bologna, Italy

• **Alma Mater Studiorum - Università di Bologna** *2019 – 2022*
Master's Degree in Computer Engineering (LM-32) Bologna, Italy
◦ Final degree mark: 110/110 cum laude
◦ Thesis title: *Secure Provisioning of OPC UA devices with a certificate manager*
◦ Thesis supervisor: Marco Prandini and Nils Ole Tippenhauer

• **Alma Mater Studiorum - Università di Bologna** *2016 – 2019*
Bachelor's Degree in Computer Engineering (L-8) Bologna, Italy
◦ Final degree mark: 110/110 cum laude
◦ Thesis title: *Implementation of a metadata-based routing algorithm in ION (Interplanetary Overlay Network)*
◦ Thesis supervisor: Carlo Caini

• **Liceo Scientifico Fulcieri Paulucci di Calboli** *2011 – 2016*
Italian Secondary School Diploma Forlì, Italy
◦ School-leaving examination mark: 100/100 cum laude

RESEARCH EXPERIENCE

• **Purdue University [🌐]** *Sep 2024 – Feb 2025*
Visiting PhD student West Lafayette, IN, USA
◦ Conducted research with professor Z. Berkay Celik and the PurSec group.

• **CISPA Helmholtz Center for Information Security [🌐]** *Sep 2021 – Dec 2021*
Master Thesis Internship Saarbrücken, Germany
◦ Conducted research with the SCy-Phy group led by professor Nils Ole Tippenhauer.
◦ Focused on enhancing the secure provisioning process for OPC UA devices.

WORK EXPERIENCE

• **Onit Group S.r.l [🌐]** *Jun 2022 – Nov 2022*
Software Developer Cesena, Italy
◦ Developed data warehouse software solutions for healthcare data processing.
◦ Full-stack web development, interfacing with databases from various providers using different SQL dialects.
◦ Employed Java Enterprise technologies and functional programming to design and implement scalable data warehouse web applications.

• **En.A.I.P. Forlì-Cesena [🌐]** *Jun 2015 – Jul 2015*
Intern Forlì, Italy
◦ Performed database management tasks, including CRUD operations.
◦ Conducted student surveys and performed statistical analysis of the results.
◦ Assisted in comprehensively reviewing and reporting the academic year's outcomes and activities.

[C13] Bacca, R., Melis, A., Rinieri, L., Girau, R., Callegati, F., and Prandini, M. (2025, October). **Empowering Operational Technology Cybersecurity with the Asset Administration Shell**. In *2025 IEEE 30th International Workshop on Computer Aided Modeling and Design of Communication Links and Networks (CAMAD)*, (pp. 1-6). IEEE. October 2025, Tempe, AZ, USA. DOI: 10.1109/CAMAD67323.2025.11229901.

[J12] A. Melis, A. Giovine, and L. Rinieri. (2025). **Time-Sensitive Networking Digital Twin for STRIDE-based security testing**. EURASIP Journal on Information Security 2025, 26. DOI: 10.1186/s13635-025-00213-7

[C11] C. Grasselli, L. Rinieri, P. González, L. Velasco, D. Careglio, and F. Callegati. (2024). **In-Network Computing for Secure Distributed AI**. In *Proceedings of the 2024 24th International Conference on Transparent Optical Networks (ICTON)*, pp. 1-4. IEEE. July 2024, Bari, Italy. DOI: 10.1109/ICTON62926.2024.10647267.

[C10] L. Rinieri, A. Iacobelli, A. Al Sadi, A. Melis, F. Callegati, and M. Prandini. (2024). **In-Network Encryption for Secure Industrial Control Systems Communications**. In *Proceedings of the 2024 IEEE 10th International Conference on Network Softwarization (NetSoft)*, pp. 1-6. IEEE. June 2024, St. Louis, Missouri, USA. DOI: 10.1109/NetSoft60951.2024.10588908.

[J9] G. Tripi, A. Iacobelli, L. Rinieri, and M. Prandini. (2024). **Security and Trust in the 6G Era: Risks and Mitigations**. *Electronics*, 13(11), 2162. DOI: 10.3390/electronics13112162

[J8] G. F. Pittalà, L. Rinieri, A. Al Sadi, G. Davoli, A. Melis, M. Prandini, and W. Cerroni. (2024). **Leveraging Data Plane Programmability to Enhance Service Orchestration at the Edge: A Focus on Industrial Security**. *Computer Networks*, 246, 109997. DOI: 10.1016/j.comnet.2024.110397

[C7] A. Iacobelli, L. Rinieri, A. Melis, A. Al Sadi, M. Prandini, and F. Callegati. (2024). **Detection of Ladder Logic Bombs in PLC Control Programs: An Architecture Based on Formal Verification**. In *Proceedings of the 2024 IEEE 7th International Conference on Industrial Cyber-Physical Systems (ICPS)*, pp. 1-6. IEEE. May 2024, St. Louis, Missouri, USA. DOI: 10.1109/ICPS59941.2024.10639995.

[J6] G. Gori, L. Rinieri, A. Melis, A. Al Sadi, F. Callegati, and M. Prandini. (2024). **A Systematic Analysis of Security Metrics for Industrial Cyber–Physical Systems**. *Electronics*, 13(7), 1208. DOI: 10.3390/electronics13071208

[J5] G. Gori, L. Rinieri, A. Al Sadi, A. Melis, F. Callegati, and M. Prandini. (2023). **GRAPH4: A Security Monitoring Architecture Based on Data Plane Anomaly Detection Metrics Calculated over Attack Graphs**. *Future Internet*, 15(11), 368. DOI: 10.3390/fi15110368

[J4] D. Berardi, F. Callegati, A. Giovine, A. Melis, M. Prandini, and L. Rinieri. (2023). **When Operation Technology Meets Information Technology: Challenges and Opportunities**. *Future Internet*, 15(3), 95. DOI: 10.3390/fi15030095

[C3] G. Gori, A. Melis, L. Rinieri, M. Prandini, A. Al Sadi, and F. Callegati. (2022). **Metrics for Cyber-Physical Security: A Call to Action**. In *Proceedings of the 2022 International Symposium on Networks, Computers and Communications (ISNCC)*, pp. 1-6. IEEE. July 2022, Shenzhen, China. DOI: 10.1109/ISNCC55209.2022.9851735

[C2] C. Grasselli, A. Melis, L. Rinieri, D. Berardi, G. Gori, and A. Al Sadi. (2022). **An Industrial Network Digital Twin for Enhanced Security of Cyber-Physical Systems**. In *Proceedings of the 2022 International Symposium on Networks, Computers and Communications (ISNCC)*, pp. 1-6. IEEE. July 2022, Shenzhen, China. DOI: 10.1109/ISNCC55209.2022.9851731

[T1] L. Rinieri. (2021). **Secure Provisioning of OPC UA Devices with a Certificate Manager**. Master's Thesis, Master's Degree in Computer Engineering, University of Bologna.

REVIEWER SERVICE

Journals

- **IEEE Transactions on Information Forensics & Security** [🌐]
  April 2025 - Present
- **PeerJ Computer Science** [🌐]
  October 2024 - Present
- **EURASIP Journal on Information Security** [🌐]
  April 2024 - Present

Conferences

- **IEEE International Conference on Network Softwarization (IEEE NetSoft)** [🌐]
  2026 - 2025 - 2024
- **IEEE Global Communications Conference (GLOBECOM)** [🌐]
  2025
- **IEEE International Conference on Communications (IEEE ICC)** [🌐]
  2024
- **Conference on Innovation in Clouds, Internet and Networks (ICIN)** [🌐]
  2026 - 2024

Workshops

- **International Workshop on Edge Network Softwarization (ENS)** [🌐]
  2025 - 2024
- **International Workshop on Cyber-Security in Software-defined and Virtualized Infrastructures** [🌐]
  2025
- **International Workshop on Programmable and Learning Architectures for Intelligent Networks** [🌐]
  2026

TEACHING EXPERIENCE

- **Teaching Assistant for Telecommunication Systems and Services [10 hours]** *AY 2024-2025*
  University of Milano-Bicocca [🌐]
  ◦ Lecturer: Marco Savi.
  ◦ Master Degree in Computer Science, 6 CFU.

- **Teaching Assistant for "Reti di Calcolatori e Programmazione di Rete" [32 hours]** *AY 2024-2025*
  University of Bologna [🌐]
  ◦ Lecturers: Andrea Melis and Franco Callegati.
  ◦ Bachelor Degree in "Tecnologie dei sistemi informatici", 6 CFU.

- **Teaching "Deployment di Applicazioni in container Docker" Module [14 hours]** *May 2025*
  Fondazione En.A.I.P. S.Zavatta Rimini [🌐]
  ◦ IFTS Course "Tecnico della progettazione e lo sviluppo di applicazioni informatiche".

- **Teaching "La Sicurezza di Reti e Sistemi e l'impiego della IA" Module [24 hours]** *Mar 2025*
  FormArt Soc. Cons. a r.l. [🌐]
  ◦ IFTS Course "IT Security Specialist: Tecnico per la Sicurezza delle Reti, dei Sistemi e delle Informazioni".

- **Teaching "Cyber Protection" Module [10 hours]** *May 2025*
  TECHNE Soc. Cons. a r.l. [🌐]
  ◦ IFTS Course "Tecnico di reti e sistemi in cloud".

- **Teaching "Cyber Protection" Module [20 hours]** *Apr 2024 - May 2024*
  TECHNE Soc. Cons. a r.l. [🌐]
  ◦ IFTS Course "Tecnico di reti e sistemi in cloud".

- **Teaching "Deployment di Applicazioni in container Docker" Module [14 hours]** *Apr 2024*
  Fondazione En.A.I.P. S.Zavatta Rimini [🌐]

◦ IFTS Course "Tecnico della progettazione e lo sviluppo di applicazioni informatiche".

• **Teaching "Vulnerability Assessment & Penetration Testing" Module [30 hours]** *Apr 2024 - Jul 2024*
FormArt Soc. Cons. a r.l. [⊕]
  ◦ IFTS Course "IT Security Specialist: Tecnico per la Sicurezza delle Reti, dei Sistemi e delle Informazioni".

• **Tutor CyberChallenge.IT 2024 [24 hours]** *2024*
University of Bologna [⊕]
  ◦ Software Security module.

• **Teaching Assistant for "Reti di Calcolatori e Programmazione di Rete" [32 hours]** *AY 2023-2024*
University of Bologna [⊕]
  ◦ Lecturers: Andrea Melis and Franco Callegati.
  ◦ Bachelor Degree in "Tecnologie dei sistemi informatici", 6 CFU.

• **Teaching "Cyber Protection" Module [20 hours]** *Apr 2023 - May 2023*
TECHNE Soc. Cons. a r.l. [⊕]
  ◦ IFTS Course "Tecnico di reti e sistemi in cloud".

• **Tutor CyberChallenge.IT 2023 [24 hours]** *2023*
University of Bologna [⊕]
  ◦ Software Security module.

ADDITIONAL INFORMATION

Mother tongue: Italian
Other language: English
  • Listening: C1
  • Reading: C1
  • Writing: B2
  • Speaking: C1