

Nico Pellegrinelli

Curriculum Vitae

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Education

- 11/2025 - Present **PhD in Technology, Innovation and Management**
Supervisor: Prof. Angelo Gargantini
Institution: University of Bergamo, Bergamo, Italy
- 10/2022 - 09/2024 **Master's Degree in Computer Science and Engineering (110/110 cum laude)**
Thesis: Automatic Generation of Test Cases for Statecharts in itemis CREATE
Supervisor: Prof. Angelo Gargantini
Institution: University of Bergamo, Bergamo, Italy
- 07/2019 - 10/2022 **Bachelor's Degree in Computer Science and Engineering (110/110)**
Thesis: Mobile robots simulation guide in Unity - ROS 2 environment
Supervisor: Prof. Davide Brugali
Institution: University of Bergamo, Bergamo, Italy
- 09/2014 - 07/2019 **Technical High School Diploma in Electronics (100/100 cum laude)**
Institution: "Valle Seriana" Technical High School, Gazzaniga, Italy

Employment

- 01/2025 - 10/2025 **Research Fellow**
Project: Software engineering methods for the design of secure systems (MISPROSS)
Supervisor: Prof. Angelo Gargantini
Institution: University of Bergamo, Bergamo, Italy
- 10/2024 - 12/2024 **Research Collaborator**
Supervisor: Prof. Angelo Gargantini
Institution: University of Bergamo, Bergamo, Italy

Summer School Attendance

- 05/2025 **SPACERAISE International Doctoral School**
Digital Twins for Space Manufacturing and Satellites
Institution: Gran Sasso Science Institute (GSSI), L'Aquila, Italy
- 08/2024 **SDU International Summer School**
Continuous Delivery and DevOps
Institution: University of Southern Denmark (SDU), Odense, Denmark

Visiting

- 06/2025 **Visiting Researcher**
Prof. Michael Leuschel
Institution: Heinrich Heine University, Düsseldorf, Germany

Academic Conference Presentations

- 03/2026 **The Interplay between Artificial Intelligence and Software Verification Workshop (VERIFAI)**
Formalizing and validating properties in Asmeta with Large Language Models
- 09/2025 **International Conference on Testing Software and Systems (ICTSS)**
CreaTest: A Framework for Test Case Generation in itemis CREATE
- 06/2025 **International Conference on Rigorous State-Based Methods (ABZ)**
Safety Enforcement for Autonomous Driving on a Simulated Highway Using Asmeta Models@run.time

Teaching Experience

Master Courses

- 03/2025 - 05/2025 **Teaching Assistant (12 hours)**
Artificial Intelligence
Prof. Domenico Fabio Savo
Institution: University of Bergamo, Bergamo, Italy
- 03/2025 - 04/2025 **Teaching Assistant (12 hours)**
Software Testing and Verification
Prof. Angelo Gargantini
Institution: University of Bergamo, Bergamo, Italy

Bachelor Courses

- 11/2025 - 12/2025 **Teaching Assistant (18 hours)**
Software Engineering
Prof. Angelo Gargantini
Institution: University of Bergamo, Bergamo, Italy
- 11/2025 - 12/2025 **Teaching Assistant (16 hours)**
Computer Science
Prof. Vittorio Moriggia
Institution: University of Bergamo, Bergamo, Italy
- 03/2025 - 05/2025 **Teaching Assistant (12 hours)**
Computer Science
Prof. Patrizia Scandurra
Institution: University of Bergamo, Bergamo, Italy
- 10/2024 - 12/2024 **Teaching Assistant (29 hours)**
Software Engineering
Prof. Angelo Gargantini
Institution: University of Bergamo, Bergamo, Italy
- 10/2024 - 11/2024 **Teaching Assistant (12 hours)**
Computer Science
Prof. Vittorio Moriggia
Institution: University of Bergamo, Bergamo, Italy

Publications

Conference Proceedings

- [1] Andrea Bombarda, Silvia Bonfanti, Angelo Gargantini, and Nico Pellegrinelli. Eliminating Flakiness: Deterministic Control for Validating Nondeterministic Asmeta Specifications. In Aaron Dutle, Laura Humphrey, and Laura Titolo, editors, *NASA Formal Methods*, pages 100–115, Cham, 2025. Springer Nature Switzerland.
- [2] Andrea Bombarda, Silvia Bonfanti, Angelo Gargantini, and Nico Pellegrinelli. Intro-

ducing CreaTest: A Framework for Test Case Generation in itemis CREATE. In Silvia Bonfanti and George Angelos Papadopoulos, editors, *Testing Software and Systems*, pages 89–106, Cham, 2026. Springer Nature Switzerland.

- [3] Andrea Bombarda, Silvia Bonfanti, Angelo Gargantini, Nico Pellegrinelli, and Patrizia Scandurra. Safety Enforcement for Autonomous Driving on a Simulated Highway Using Asmeta Models@run.time. In Michael Leuschel and Fuyuki Ishikawa, editors, *Rigorous State-Based Methods*, pages 212–230, Cham, 2026. Springer Nature Switzerland.

Journal Articles

- [4] Giorgio Felizzato, Michele Verdi, Angelo Michele Gargantini, Nico Pellegrinelli, and Francesco Saverio Romolo. 'Forensic-DataFusion-Tool': A Python-based application for exploratory forensic data analysis using merged datasets from analytical sensors. *Software Impacts*, 26:100799, 2025.

Reviewer Service

- 2026 *International Workshop on Combinatorial Testing (IWCT)*
SN Computer Science - Testing Software and Systems: Challenges and Emerging Trends
IEEE International Conference on Software Testing, Verification and Validation (ICST)
VerifAI - The Interplay Between Artificial Intelligence and Formal Verification Workshop (VERIFAI)
- 2025 *International Conference on Formal Methods In Software Engineering (FormaliSE) - Artifact Evaluation Committee*
International Conference on Testing Software and Systems (ICTSS)
ACM/SIGAPP Symposium on Applied Computing (SAC) - Software Verification and Testing Track (SVT)
IIAI International Conference on Smart Computing and Artificial Intelligence (SCAI)
International Workshop on Combinatorial Testing (IWCT)
International Conference on Enabling Technologies: Infrastructure for Collaborative Enterprises (WETICE)
- 2024 *IEEE International Conference on Software Testing, Verification and Validation (ICST)*
Workshop on Validation, Analysis and Evolution of Software Tests (VST)

Mentoring of Individuals

Master Students

- 10/2025 - 03/2026 **Claudio Borsani**
Collaborative Diagnostics: Robust Delegation Strategies Based on Uncertainty Estimation
Assisted MSc thesis supervision (Prof. Angelo Gargantini; with Dr. Paolo Arcaini, Dr. Silvia Bonfanti, and Dr. Andrea Bombarda)
Institution: University of Bergamo, Bergamo, Italy
- 10/2024 - 03/2025 **Isaac Maffeis**
EvoAvalla: Generation of Abstract Scenarios for Asmeta through Code Transformations and JUnit Test Generation
Assisted MSc thesis supervision (Prof. Angelo Gargantini; Dr. Silvia Bonfanti, and Dr. Andrea Bombarda) *Institution:* University of Bergamo, Bergamo, Italy