

Giammaria Giordano, Ph.D. Student

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Research Summary

During my career, I worked on several topics linked to Software Engineering, including but not limited to Software Engineering for Artificial Intelligence (*SE4AI*) and Code Quality in traditional and ML-enabled systems. However, I also worked on secondary topics related to software engineering, including vulnerabilities in mobile applications and quantum computing.

Research Publications

Journal Articles

- 1 F. Amato, G. Giordano, L. Contrasto, *et al.*, “Quantummoonlight: A low-code platform to experiment with quantum machine learning,” *Software X*, 2022.
- 2 G. Giordano, F. Palomba, and F. Ferrucci, “On the use of artificial intelligence to deal with privacy in iot systems: A systematic literature review,” *Journal of Systems and Software*, vol. 193, p. 111 475, 2022, ISSN: 0164-1212. 🔗 DOI: <https://doi.org/10.1016/j.jss.2022.111475>.

Conference Articles

- 1 G. Giordano, G. Sellitto, A. Sepe, F. Palomba, and F. Ferrucci, “The yin and yang of software quality: On the relationship between design patterns and code smells,” 🏆 Best Paper Award 🏆 2023.
- 2 G. Giordano, F. Palomba, and F. Ferrucci, “A preliminary conceptualization and analysis on automated static analysis tools for vulnerability detection in android apps.”
- 3 G. Giordano, G. Annunziata, A. D Lucia, and F. Palomba, “Understanding developer practices and code smells diffusion in ai-enabled software: A preliminary study,” 2023.
- 4 G. Giordano, V. Pontillo, G. Annunziata, A. Cimino, F. Palomba, and F. Ferrucci, “How may deep learning testing inform model generalizability? the case of image classification,” 2023.
- 5 G. Giordano, A. Fasulo, G. Catolino, F. Palomba, F. Ferrucci, and C. Gravino, “On the evolution of inheritance and delegation mechanisms and their impact on code quality,” in *2022 IEEE International Conference on Software Analysis, Evolution and Reengineering (SANER)*, 2022, pp. 947–958. 🔗 DOI: 10.1109/SANER53432.2022.00113.
- 6 G. Giordano, G. Festa, G. Catolino, F. Palomba, F. Ferrucci, and C. Gravino, “On the adoption and effects of source code reuse on defect proneness and maintenance effort,” 2022.

Professional Activities

Referee for International Journals

- 📌 I served as a referee to multiple international journals, such as the Journal of Systems and Software (JSS), Springer Journal of Empirical Software Engineering (EMSE), and Transaction on Software Engineering and Methodology (TOSEM).

Professional Activities (continued)

Organization Committee Participation

- 2024 ■ **Program Committee member**, 21st International Conference of Mining Software Repositories (MSR) Lisbon (Portugal).
- **Program Committee member**, International Conference on Software Analysis, Evolution and Reengineering (SANER), Rovaniemi (Finland).
- 2023 ■ **Program Committee member**, International Conference on Software Process and Product Measurement (MENSURA), Rome (Italy).
- **Program Committee member**, 20th International Conference of Mining Software Repositories (MSR 2023), Melbourne (Australia).
- 2022 ■ **Program Committee Member**, 17th International Conference on Software Engineering Advances (ICSEA 2021), Lisbon, (Portugal).
- **Web and Publicity Chair**, 1st Workshop on Software Quality Assurance for Artificial Intelligence (SQ4AI 2022), Honolulu, (Hawaii, USA).
- 2021 ■ **Program Committee Member**, 16th International Conference on Software Engineering Advances (ICSEA 2021), Barcelona, (Spain).

Conferences and Schools Participation

- 2023 ■ **Author**. 32nd International Workshop on Software Measurement (IWSM) and MENSURA Rome Italy.
- **Author**. Euromicro Conference on Software Engineering and Advanced Applications (SEAA). Durres Albania.
- **Author**. 16th International Summer School on Software Engineering (ISSSE). Salerno, Italy
- 2022 ■ **Author**. IEEE International Conference on Software Maintenance and Evolution (ICSME). Limassol, Cyprus.
- 22nd IEEE International Working Conference on Source Code Analysis and Manipulation (SCAM). Limassol, Cyprus.
- **Author**. Euromicro Conference on Software Engineering and Advanced Applications (SEAA). Maspalomas, Gran Canaria, Spain.
- **Author**. 29th edition of the IEEE International Conference on Software Analysis, Evolution and Reengineering (SANER). Virtual.
- 20th Belgium-Netherlands Software Evolution Workshop (BENEVOL). Virtual.
- 2021 ■ Winter School on Software Engineering. Virtual.

Conferences and Schools Participation (continued)

- 15th International Summer School on Software Engineering (ISSSE). Virtual.
- 2020 14th International Summer School on Software Engineering (ISSSE). Fisciano, Italy.

Teaching

Teaching Assistance

- 2022 – 2023 **Help Teaching - Software Engineering I**, University of Salerno (Italy).
Teaching Assistant and Students Projects Evaluator in the course of Prof. Carmine Gravino (Bachelor's Degree in Computer Science at the University of Salerno).
- 2020 – 2021 **Help Teaching - Software Engineering I**, University of Salerno (Italy).
Teaching Assistant and Students Projects Evaluator in the course of Prof. Filomena Ferrucci and Prof. Fabio Palomba (Bachelor's Degree in Computer Science at the University of Salerno).
- 2019 **Help Teaching - Software Engineering I**, University of Salerno (Italy).
Teaching Assistant and Students Projects Evaluator in the course of Prof. Filomena Ferrucci and Prof. Carmine Gravino (Bachelor's Degree in Computer Science at the University of Salerno).

Scholarship

- 2020 **Processi Integrati e Connessi Per l'Evoluzione Industriale nella Produzione**
University of Salerno (Italy).
Advisor: Prof. Carmine Gravino.

Teaching Fellow

I am a teaching fellow in the following courses: Computer Science Education (Italian); Fundamentals of Artificial Intelligence (Italian); Software Dependability (English); Software Engineering (Italian); Software Engineering for A.I. (English) Software Metrics and Quality (Italian); Software Project Management (Italian).

Membership

- 2023 – Current **Italian Software Metrics Association (GUFPI-ISMA)**

Other Activities

During my academic career, I supervised over 50 bachelor theses, and over 15 master theses. The main topics include but are not limited to *SE4AI*, Fairness in Artificial Intelligence Systems, and Code quality in Traditional and Artificial Intelligence Systems.

Education

- 2021–current **Ph.D. student, University of Salerno (Italy).**
Advisors: Prof. Fabio Palomba, and Prof. Filomena Ferrucci.

Education (continued)

2020

■ **M.Sc. Computer Science, University of Salerno (Italy).**

Advisor: Prof. Filomena Ferrucci.

Co-Advisors: Doc. Pasquale Salza, and Doc. Valerio Terragni.

Thesis title: *Flaky Test: Mapping study della letteratura e sviluppo di un tool per l'individuazione dei flaky test (italian).*

Degree Vote: 110/110 magna cum laude.