

Luca Di Grazia

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🗣️ English, Italian and German

Major Achievements and Selected Awards

- **Until now:** Innovative research in Software Engineering and Generative AI at prestigious universities (Top-20 in CSRankings for Software Engineering) and a tech giant (Market Cap > \$100B) across multiple countries.
- **2024:** Successfully defended my PhD with *Summa cum laude* (the highest grade in the German system).
- **2023:** Won *GenAI Uber's competition* with my internship project on using generative AI to boost developer productivity for fixing bugs, beating 103 teams, and presenting as winners to the Uber's CEO and ELT.
- **2022:** Recipient of the *ACM SIGSOFT Distinguished Paper Award* at ESEC/FSE 2022 (see below).
- **2022:** Second winner at *ACM Student Research Competition* at ICSE 2022 for my project: *Efficiently and Precisely Searching for Code Changes with DiffSearch* (\$300).
- **2020:** Gnome Challenge 2020 winner (1st phase) to *Reach a new generation of open-source coders* (\$1,000).
- **2016-2018:** Awarded national scholarship to study computer engineering at Polytechnic of Turin (€3,000/year).
- Reviewer for *IEEE TSE*, *ACM TOSEM*, Hiring Evaluator for the Max Planck Research School (IMPRS) for Intelligent Systems (IS) and the European Laboratory for Learning and Intelligent Systems Systems (ELLIS).

Selected Positions and Experience

- From **University of Lugano (USI), Switzerland** 🇨🇭
- 02/2024 **Role:** Postdoctoral Researcher. Supervisor: Prof. Dr. Mauro Pezzè.
Tasks: Conducting research on using generative AI to test software with real-world scenarios. This involved designing innovative LLM approaches for generating test scenarios and evaluating their effectiveness.
- 09/2019 – **University of Stuttgart, Germany** 🇩🇪
- 02/2024 **Role:** Research and Teaching Assistant. Supervisor: Prof. Dr. Michael Pradel.
Tasks: Research in AI for Software Engineering, focusing on type systems and programming languages. Teaching assistant for Programming Paradigms, Machine Learning for Programming and Program Analysis.
- 05/2023 – **Uber, Amsterdam, Netherlands** 🇳🇱
- 09/2023 **Role:** Research intern (PhD) in Generative AI and AI Prompt Engineering.
Tasks: Design and work on a generative AI research project based on the usage of large language models to automatically fix bugs in the Uber source code revealed by static analysis tools.

Education

- 09/2019 – **University of Stuttgart, Germany** 🇩🇪
- 02/2024 **Degree:** Ph.D. in Computer Science, advisor Prof. Dr. Michael Pradel.
Thesis: "Supporting Software Evolution with Search and Predictions".
Committee: Prof. Dr. Michael Pradel, Prof. Dr. Georgios Gousios and Prof. Dr. Kathryn T. Stolee.
- 09/2013 – **Polytechnic of Turin, Italy** 🇮🇹
- 07/2019 **Degrees:** Bachelor's and Master's Degree in Computer Engineering. Specialization in Embedded Systems.
Thesis: "Protein classification using geometrical features for 3D face analysis." (Published in *PROTEIN*)
Supervisors: Prof. Dr. Federica Marcolin and Prof. Dr. Jack A. Tuszynski.

Selected Peer-reviewed Conference and Journal Publications

Note: All publications listed below have been featured in A* core venues.

- ICSE 2024 **PyTy: Repairing Static Type Errors in Python**
Chow, Y.; Di Grazia, L.; Pradel, M. *International Conference on Software Engineering*.
- CSUR 2023 **Code Search: A Survey of Techniques for Finding Code**
Di Grazia, L.; Pradel, M. *ACM Computing Surveys*.
- FSE 2022 **The Evolution of Type Annotations in Python: An Empirical Study**
Paper Award Di Grazia, L.; Pradel, M. *Symposium on the Foundations of Software Engineering*.
- TSE 2022 **DiffSearch: A Scalable and Precise Search Engine for Code Changes**
Di Grazia, L.; Bredl P.; Pradel, M. *IEEE Transactions on Software Engineering*.