Antonio Mastropaolo
Curriculum Vitae

1 Personal Information

Name	Antonio Mastropaolo
Work Address	Università della Svizzera italiana
	Faculty of Informatics
	Via La Santa 1
	6958 Lugano (CH)
E-Mail	antonio.mastropaolo@usi.ch
Web	`http://www.antoniomastropaolo.com`
Research Interests	**AI4SE** (Artificial Intelligence for Software Engineering)
	Software Quality

2 Education and Employment History

Oct 2020 - Now	Ph.D Student - Università della Svizzera Italiana, Switzerland
Jan 2020 - Jul 2020	Research Assistant - University of Molise, Italy
Oct 2018 - July 2020	MSc (with *summa cum laude*) in Security of Software Systems from the University of Molise
	Dissertation: *DeepGen: A Multi-task Learning Model for Software Engineering Related-Tasks*
Oct 2005 - July 2018	BSc in Computer Science (with *summa cum laude*) from the University of Molise
	Dissertation: *An Adaptive Allocation of Search Budget in Search Based Software Testing*

3 Bibliometric Indicators

Published articles	13, and in particular:
	5 journal articles, including 2 TSE, 1 TOSEM, 1 EMSE and 1 JSS
	8 international conferences, including 6 full research papers in top-tier
	venus, 5 ICSE and 1 ASE papers
	Complete list available at: `https://www.antoniomastropaolo.com`
Google Scholar (11/19/2023)	
h-index	7
i10-index	7
Citations	304

4 Publications

Refereed Journal Publications

6. A. Mastropaolo, V. Ferrari, L. Pascarella, G. Bavota. *Log Statements Generation via Deep Learning: Widening the Support Provided to Developers*. Journal of Systems and Software (**JSS**), *To Appear* (2023).

5. R. Tufano, O. Dabic, A. Mastropaolo, M. Ciniselli, G.Bavota *Code Review Automation: Strengths and Weaknesses of the State of the Art*. Transactions on Software Engineering (**TSE**), *(Currently under review after minors changes asked)*

4. A. Mastropaolo, E. Aghajani, L. Pascarella, G. Bavota. *Automated variable renaming: are we there yet?*. Empirical Software Engineering (**EMSE**), Volume 28(2), pp. 45, (2023).

3. A. Mastropaolo, N. Cooper, D.N. Palacio, S. Scalabrino, D. Poshyvanyk, R. Oliveto, G.Bavota *Using Transfer Learning for Code-Related Tasks*. Transactions on Software Engineering (**TSE**), IEEE, Volume 49(4), pp. 1580-1598 (2023).

2. M. Ciniselli, N. Cooper, L. Pascaralla, A. Mastropaolo, E. Aghajani, D. Poshyvanyk, M. Di Penta, G.Bavota *An Empirical Study on the Usage of Transformer Models for Code Completion*. Transactions on Software Engineering (**TSE**), IEEE, Volume 48(12), pp. 4818-4837 (2022).

1. S. Scalabrino, A. Mastropaolo, G. Bavota, Rocco Oliveto. *An Adaptive Search Budget Allocation Approach for Search-Based Test Case Generation*. Transactions on Software Engineering and Methodology (**TOSEM**), ACM, Volume 30(3), pp. 1-26 (2021).

Peer-reviewed Conference Publications

9. A. Mastropaolo, M. Ciniselli, G. Bavota, M. Di Penta. *Evaluating Code Summarization Techniques: A New Metric and an Empirical Characterization*. 46th IEEE/ACM International Conference on Software Engineering (**ICSE 2024**), Lisbon, Portugal, 2024, *(Currently under review after majors changes asked)*.

8. A. Mastropaolo, M Ciniselli, M. Di Penta, G. Bavota . *Toward Automatically Completing GitHub Workflows*. In: Proceedings of 46th IEEE/ACM International Conference on Software Engineering (**ICSE 2024**), Lisbon, Portugal, 2024, *To Appear - 12 pages*

7. A. Mastropaolo, M. Di Penta, G. Bavota. *Towards Automatically Addressing Self-Admitted Technical Debt: How Far Are We?*. In: Proceedings of 38th IEEE/ACM International Conference on Automated Software Engineering (**ASE 2023**), Luxembourg, 2023, *To Appear*

6. G. Rosa, A. Mastropaolo, S. Scalabrino, G.Bavota, R. Oliveto. *Automatically Generating Dockerfiles via Deep Learning: Challenges and Promises*. In: Proceedings of 43rd IEEE/ACM International Conference on Software and System Processes (**ICSSP 2023**), Melbourne, Australia, 2023, pp. 1-12

5. A. Mastropaolo, L. Pascarella, G. Guglielmi, M.Ciniselli, S.Scalabrino, R.Oliveto, G.Bavota *On the Robustness of Code Generation Techniques: An Empirical Studyon GitHub Copilot*. In: Proceedings of 45th IEEE/ACM International Conference on Software Engineering (**ICSE 2023**), Melbourne, Australia, 2023, pp. 2149-2160

4. R. Tufano, S. Masiero, A. Mastropaolo, L. Pascarella, D. Poshyvanyk, G. Bavota *Using Pre-Trained Models to Boost Code Review Automation*. In: Proceedings of 44th IEEE/ACM International Conference on Software Engineering (**ICSE 2022**), Pittsburgh, PA, USA, 2022, pp. 2291-2302

3. A. Mastropaolo, L. Pascarella, G. Bavota. *Using Deep Learning to Generate Complete Log Statements*. In: Proceedings of 44th IEEE/ACM International Conference on Software Engineering (**ICSE 2022**), Pittsburgh, PA, USA, 2022, pp. 2279-2290

2. A. Mastropaolo, E. Aghajani, L. Pascarella, G. Bavota. *An Empirical Study on Code Comment Completion*. In: Proceedings of 37th IEEE International Conference on Software Maintenance and Evolution (**ICSME 2021**), Luxembourg, 2021, pp. 159-170

1. A. Mastropaolo, S. Scalabrino, N. Cooper, D.N. Palacio, D. Poshyvanyk, R. Oliveto, G.Bavota. *Studying the Usage of Text-To-Text Transfer Transformer to Support Code-Related Tasks*. In: Proceedings of 43rd IEEE/ACM International Conference on Software Engineering (**ICSE 2021**), Madrid, Spain, 2021, pp. 336-347

5 Conference Presentations

6. **ASE 2023 – Research Track**
   Towards Automatically Addressing Self-Admitted Technical Debt: How Far Are We?, *Sep 2023, Luxembourg.*
5. **ICSE 2023 – Research Track**
   On the robustness of code generation techniques: An empirical study on github copilot, *May 2023, Melbourne, Australia.*
4. **ICSME 2022 – Doctoral Symposium Track**
   Widening the Support of Code-Related Tasks via Large Pre-trained Language Models of Code, *Oct 2022, Limassol, Cyprus.*
3. **ICSE 2022 – Research Track**
   Using deep learning to generate complete log statements, *May 2022, Pittsburgh, United States of America (USA).*
2. **ICSME 2021 – Research Track**
   An empirical study on code comment completion, *September 2021, Virtual.*
1. **ICSE 2021 – Research Track**
   Studying the usage of text-to-text transfer transformer to support code-related tasks, *May 2021, Virtual.*

6 Invited Talks

2. **University of Molise**
   Deep-Learning for Software Engineering: Where are we heading to?, *February 2023.*
1. **Microsoft VS Data Science Meeting**
   On Automating Code-Related Tasks via Pre-trained Models of Code, *December 2022.*

7 Professional Activities and Service

7.1 Organizing Committee

2. **FORGE 2024** (Social Media and Publicity Co-Chair): 1st ACM/IEEE AI Foundation Models and Software Engineering, Apr 2024 - Lisbon, Portugal.
1. **ICSME 2023** (Proceedings Co-Chair): 39th IEEE International Conference on Software Maintenance and Evolution, Oct 2023 - Bogota, Colombia.

7.2 Program Committees

4. **NLBSE 2024** 3rd Intl. Workshop on NL-based Software Engineering, April 2024 - Lisbon, Portugal.
3. **SANER 2024** (Short Papers and Posters Track): IEEE International Conference on Software Analysis, Evolution, and Reengineering, Mar 2024 - Rovaniemi, Finland.
2. **MSR 2023** (Junior PC): 20th IEEE/ACM Working Conference on Mining Software Repositories, May 2023 - Melbourne, Australia.
1. **MSR 2022** (Shadow PC): 19th IEEE/ACM Working Conference on Mining Software Repositories, May 2022 - Pittsburgh, USA.

7.3 Journal Reviewer

7. Transactions on Software Engineering (TSE): 2023.
6. Automated Software Engineering (ASE): 2023.
5. Transactions on Software Engineering and Methodology (TOSEM): 2022, 2023.
4. Journal of Empirical Software Engineering (EMSE): 2023.
3. Journal of Systems and Software (JSS), 2022, 2023.
2. Journal of Software: Evolution and Process (JSEP), 2023.
1. Journal of Computer Science and Technology (JCST), 2022.

8   Teaching Experience

Fall 2022, 2023	Lab Instructor and Teaching Assistant for the graduate course *Software Analytics* Università della Svizzera Italiana, Switzerland Language: English
Fall 2021, 2022	Lab Instructor and Teaching Assistant for the undergaduate course *Software Atelier 1* Università della Svizzera Italiana, Switzerland Language: English
Spring 2022	Lab Instructor and Teaching Assistant for the undergaduate course *Experimentation and Evaluations* Università della Svizzera Italiana, Switzerland Language: English
Spring 2021	Lab Instructor and Teaching Assistant for the undergaduate course *Programming Fundamentals 2* Università della Svizzera Italiana, Switzerland Language: English

9   Mentoring

5. **Andrea Michele Zucchi** - Università della Svizzera italiana, Bachelor student (2023)
   JLOG: Supporting the Automatic Injection of Log Statements in Visual Studio Code.
   Michele's thesis has resulted in a Visual Studio Code plugin publicly available at:
   `https://marketplace.visualstudio.com/items?itemName=AndreaMicheleZucchi.loginjector`.

4. **Mak Fazlic** - Università della Svizzera italiana, Bachelor student (2023)
   Application of Curriculum Learning in Deep Learning while finetuning transformer models (codeBERT).

3. **Valentina Ferrari** - Università della Svizzera italiana, Master student (2022)
   Extending and Improving Log Statements Generation Using Pre-trained Models.
   Valentina's thesis has been published at JSS (2023).

2. **Simone Masiero** - Università della Svizzera italiana, Master student (2021)
   Using Pre-trained Models to Automate Code Review Activities.
   Simone's thesis has been published at ICSE 2022.

1. **Matteo Omnetti** - Università della Svizzera italiana, Bachelor student (2021)
   A Visual Studio Code Plugin for Experimenting Code Completion Models.
   Matteo's thesis has resulted in a Visual Studio Code plugin publicly available at:
   `https://marketplace.visualstudio.com/items?itemName=Matteo-Omenetti.simon`.

10   Volunteering

2. **ICSME 2023** (Student Volunteer): 39th IIEEE International Conference on Software Maintenance and Evolution, Oct 2023 - Bogota, Colombia.

1. **ICSE 2023** (Student Volunteer): 45th IIEEE International Conference on Software Engineering, May 2023 - Melbourne, Australia.