



giovannigrano

ph.d. student & software engineer

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languages

Italian: *mother tongue*
English: *fluent*
German: *beginner*

programming

Java, Python
Swift, Bash
R, \LaTeX
COBOL

publication indexes

Google Scholar
DBLP

open source

GitHub

about

I was born in Campobasso (Italy) on April, 24th, 1990. I received (cum laude) the Bachelor's Degree in Computer Science from the University of Molise (Italy) in 2013, advised by Prof. Rocco Oliveto. Afterwards I moved to the University of Salerno, where in 2015 I received my Master's Degree (cum laude) in Computer Science, advised by Prof. Andrea De Lucia, defending a thesis on Search Based Software Testing.

Just after my M.Sc. I worked for one year as IT Analyst and Developer at Cedacri S.p.A., as a developer for the banking sector. In November 2016 I started my Ph.D., joining the s.e.a.l. group at the University of Zurich.

My main research interests include Search-Based Software Engineering (SBSE), with a main focus on Search-Based Software Testing (SBST), Software maintenance and evolution and Empirical Software Engineering.

education

- | | | |
|---------------|--|---|
| 11.16 - → | Ph.D. Student in Informatics
Research Assistant in Software Evolution and Architecture Lab (s.e.a.l.) of the Prof. Harald Gall | University of Zurich, Switzerland |
| 09.13 - 09.15 | M.Sc. in Computer Science
Final grade: 110/110 <i>cum laude</i>
<i>"Implementation and comparison of novel techniques for automated search based test data generation"</i> advised by Prof. Andrea De Lucia | University of Salerno, Italy |
| 09.09 - 07.13 | B.Sc. in Computer Science
Final grade: 110/110 <i>cum laude</i> | University of Molise, Italy |

experience

- | | | |
|---------------|--|--|
| 02.18 - 03.18 | Research Visit
Work that lead on the IEEE Transaction on Software Engineering paper "Testing with Fewer Resources: An Adaptive Approach to Performance-Aware Test Case Generation" | TU Delft, the Netherlands |
| 10.15 - 9.16 | IT Analyst and Developer
Cedacri is the most important Italian company specialized in outsourcing services for the banking sector. I worked as an IT Analyst and Software Developer, mainly developing in C#, JavaScript and COBOL. | Cedacri S.p.A., Italy |
| 3.15 - 9.15 | Temporary Research Fellow
My work consisted on support the design of test environments with integration of methodologies for test scenarios generation. I collaborated to the design and implementation of OCELOT, a tool for search-based automated test case generation for C language | University of Salerno, Italy |

awards

03.18	SANER 2018 Best Tool Paper Demo Award	Campobasso, Italy
09.17	HackZurich 2017 1st Place Esri Award @ HackZurich 2017	Zurich, Switzerland
05.15	ICSE 2015 SCORE-IT Award Finalist of SCORE-IT context during ICSE 2015	Florence, Italy

publications

journals

Testing with Fewer Resources: An Adaptive Approach to Performance-Aware Test Case Generation

Giovanni Grano, Christoph Laaber, Annibale Panichella, and Sebastiano Panichella

IEEE Transactions on Software Engineering (to appear). IEEE, to appear

Lightweight Assessment of Test-Case Effectiveness using Source-Code-Quality Indicators

Giovanni Grano, Fabio Palomba, and Harald Gall

IEEE Transactions on Software Engineering (to appear). IEEE, to appear

Scented Since the Beginning: On the Diffuseness of Test Smells in Automatically Generated Test Code

Giovanni Grano, Fabio Palomba, Dario Di Nucci, Andrea De Lucia, and Harald Gall

Journal of Systems and Software (July 2019). 2019

Branch Coverage Prediction in Automated Testing

Giovanni Grano, Timofey V. Titov, Sebastiano Panichella, and Harald C. Gall

Journal of Software: Evolution and Process (Feb. 2019). 2019

A Large-Scale Empirical Exploration on Refactoring Activities in Open Source Software Projects

Carmine Vassallo, Giovanni Grano, Fabio Palomba, Harald Gall, and Alberto Bacchelli

Science of Computer Programming (May 2019). Elsevier, 2019

conferences and workshops

A New Dimension of Test Quality: Assessing and Generating Higher Quality Unit Test Cases

Giovanni Grano

Proceedings of the 27th ACM SIGSOFT International Symposium on Software Testing and Analysis, 2019

On the Effectiveness of Manual and Automatic Unit Test Generation: Ten Years Later

Domenico Serra, Giovanni Grano, Fabio Palomba, Filomena Ferrucci, Harald Gall, and Alberto Bacchelli

Proceedings of the 16th International Conference on Mining Software Repositories, 2019, Montreal, Canada

Exploring the Integration of User Feedback in Automated Testing of Android Applications

Giovanni Grano, Adelina Ciurumelea, Sebastiano Panichella, Fabio Palomba, and Harald Gall

IEEE 25th International Conference on Software Analysis, Evolution and Reengineering, SANER 2018, Campobasso, Italy, 2018

An Empirical Investigation on the Readability of Manual and Generated Test Cases

Giovanni Grano, Simone Scalabrino, Rocco Oliveto, and Harald Gall

Proceedings of the 26th International Conference on Program Comprehension, ICPC, Gothenburg, Sweden, 2018

[MaLTaSQuE] How High Will It Be? Using Machine Learning Models to Predict Branch Coverage in Automated Testing

Giovanni Grano, Timofey Titov, Sebastiano Panichella, and Harald Gall

MaLTaSQuE (Workshop on Machine Learning Techniques for Software Quality Evaluation), Campobasso, Italy, 2018

BECLoMA: Augmenting Stack Traces with User Review Information

Lucas Pelloni, Giovanni Grano, Adelina Ciurumelea, Sebastiano Panichella, Fabio Palomba, and Harald Gall

IEEE 25th International Conference on Software Analysis, Evolution and Reengineering, SANER 2018, Campobasso, Italy, 2018

OCELOT: A Search-Based Test Data Generation Tool for C

Simone Scalabrino, Giovanni Grano, Dario Di Nucci, Michele Guerra, Andrea De Lucia, Harald C Gall, and Rocco Oliveto

Proceedings of the 33rd IEEE/ACM International Conference on Automated Software Engineering (ASE) 2018, 2018, Montpellier, France

Android Apps and User Feedback: A Dataset for Software Evolution and Quality Improvement

Giovanni Grano, Andrea Di Sorbo, Francesco Mercaldo, Corrado A. Visaggio, Gerardo Canfora, and Sebastiano Panichella

Proceedings of the 2Nd ACM SIGSOFT International Workshop on App Market Analytics, 2017, Paderborn, Germany

Search-Based Testing of Procedural Programs: Iterative Single-Target or Multi-target Approach?

Simone Scalabrino, Giovanni Grano, Dario Di Nucci, Rocco Oliveto, and Andrea De Lucia

Search Based Software Engineering - 8th International Symposium, SSBSE 2016, Raleigh, NC, USA, October 8-10, 2016, Proceedings, 2016

teaching

supervised students

2017

Lucas Pelloni

[Bachelor Student, University of Zurich](#)

GUI usability and testing of mobile applications

assistant

2019

Informatik 1, Teaching Assistant - University of Zurich

2018

Informatik 1, Teaching Assistant - University of Zurich

2017

Informatik 1, Teaching Assistant - University of Zurich

Software Maintenance and Evolution, Teaching Assistant - University of Zurich

2017

Software Praktikum, Teaching Assistant - University of Zurich

professional services

conferences

2019

ICSME (sub-reviewer)

2018

MSR (sub-reviewer), **SANER** (sub-reviewer)

2017 ASE (sub-reviewer), SATTose (sub-reviewer)

journal referee

EMSE Empirical Software Engineering: An International Journal, Springer
JSS Journal of Systems and Software, Elsevier
JSEP Journal of Software: Evolution and Process, Wiley

grants

2019	Hasler Stiftung - Small Projects Co-PI - approx. 50,000 CHF Test Authority: A New Path to Measure Test Quality
2019	GRC Travel Grant 1,200 CHF Research Visit in University of Salerno, Italy
2019	SIGSOFT CAPS 500 USD Grant to present a journal first paper at ASE 2019
2019	CHOOSE Grant 500 CHF Grant to attend the Doctoral Symposium at ISSTA 2019
2018	CHOOSE Grant 500 CHF Grant to present a research paper at SANER 2018
2017	GRC Travel Grant 1,200 CHF Research Visit in Delft University of Technology, the Netherlands