



Dario Di Nucci

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| NAME: Dario Di Nucci | ADDRESS: via Raffaele Iorio 27, 86170 Isernia (IS), Italy |
| DATE OF BIRTH: 3rd September, 1988 | PHONE: +39 333 340 3254 |
| PLACE OF BIRTH: Isernia, Italy | E-MAIL: ddinucci@unisa.it |
| | WEBSITE: http://dardin88.github.io |

SKILLS

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| OPERATING SYSTEMS | Linux, Windows, macOS |
| PROGRAMMING LANGUAGES | C, Java, JavaScript, Matlab, R, Python |
| WEB-ORIENTED LANGUAGES | HTML, CSS, PHP |
| DATABASE LANGUAGES | SQL, PostgreSQL |
| CONTROL VERSION SYSTEMS | Git, Subversion |
| BUG TRACKING SYSTEMS | Bugzilla, JIRA |
| OTHERS | LaTeX, UML, Data Mining, Data Warehousing, Information Retrieval |

LANGUAGE SKILLS

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| ITALIAN | Mother tongue |
| ENGLISH | B2 |

SOFTWARE PROJECTS

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| 2017 | PETRA http://tinyurl.com/je2nxkd PETrA is a software able to estimate the energy consumption of method calls in Android apps. It is based on some Android tools that are Monkey, Batterystats, Systrace, and dmtracedump. |
| 2015 | LANDFILL http://www.sesa.unisa.it/landfill Landfill is a Web-based platform for sharing code smell datasets. It also provides a set of APIs for programmatically accessing its data. Anyone can contribute by: improving existing datasets or sharing and posting new datasets. |
| 2014 | GNOME MAPS https://wiki.gnome.org/Apps/Maps Gnome Maps is a map application for GNOME. |
| | GRAPHHOPPER https://graphhopper.com GraphHopper offers memory efficient algorithms in Java for routing on graphs. E.g. Dijkstra and A* but also optimized road routing algorithms like Contraction Hierarchies. It stands under the Apache License and is build on a large test suite. |

RESEARCH INTERESTS

My research activities are mainly focused on maintenance and testing of software systems. In details my research interest are:

- **SEARCH BASED SOFTWARE TESTING.** Software testing is an expensive activity essential in the development of software. For these reasons, over time, many researches have been made in order to further automate this stage. Software testing techniques based on research use meta-heuristic optimization techniques, such as genetic algorithms, in order to address problems involving the steps of the software testing, and verification and validation of the domain.
- **MINING SOFTWARE REPOSITORY.** Software repositories such as source code control systems, communications stored between project staff and monitoring systems of the defects are used to improve the management of the progress of software projects. The purpose of this branch of research is to find out how to obtain information in order to help understand the development and evolution software processes, support forecasts on software development, and plan future developments.
- **EMPIRICAL SOFTWARE ENGINEERING.** Empirical software engineering is a subdomain of software related to experiments on systems software (software products, processes and resources). This branch includes the design of experiments on software, the collection of the results, and the consequent development of laws and theories.

TEACHING

TEACHING ASSISTANCE

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| 2016/17 2015/16 | SOFTWARE ENGINEERING, MANAGEMENT AND EVOLUTION Master's Degree in Computer Science, University of Salerno, Italy |
| 2015/16 | SOFTWARE ENGINEERING: MAINTENANCE AND TESTING Master's Degree in Computer Science, University of Salerno, Italy |
| 2016/17 2015/16 | PROGRAMMING I Bachelor's Degree in Computer Science, University of Salerno, Italy |
| 2016/17 2015/16 | SOFTWARE ENGINEERING Bachelor's Degree in Computer Science, University of Salerno, Italy |
| 2016/17 | WEB DEVELOPMENT Bachelor's Degree in Computer Science, University of Salerno, Italy |

THESES COORDINATION SUPPORT

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| 2017 | DESIGN AND IMPLEMENTATION OF A DEFECT PREDICTION TOOL BY USING CROSS-PROJECT TECHNIQUES Student: Pasquale Martiniello – B.Sc. in Computer Science – Advisor: Prof. Andrea De Lucia |
| 2016 | TRIO: A TOOL FOR REGRESSION TESTING OPTIMIZATION Student: Antonio Luca D'Avanzo – B.Sc. in Computer Science – Advisor: Prof. Andrea De Lucia |
| | CHECKAPP: A TOOL FOR MONITORING JAVA APPLICATION PERFORMANCE Student: Elisa D'Eugenio – M.Sc. in Computer Science – Advisor: Prof. Andrea De Lucia |
| | DESIGN AND IMPLEMENTATION OF A DEFECT PREDICTION TOOL Student: Fabiano Pecorelli – B.Sc. in Computer Science – Advisor: Prof. Andrea De Lucia |
| | PETRA: A POWER ESTIMATION TOOL FOR ANDROID APPLICATIONS Student: Antonio Prota – M.Sc. in Computer Science – Advisor: Prof. Andrea De Lucia |
| 2015 | IMPLEMENTATION AND COMPARISON OF NOVEL TECHNIQUES FOR SEARCH BASED TEST DATA GENERATION Student: Giovanni Grano – M.Sc. in Computer Science – Advisor: Prof. Andrea De Lucia |
| | A COMBINED MODEL FOR PREDICTION OF DEFECTS Student: Simone Scalabrino – M.Sc. in Computer Science – Advisor: Prof. Andrea De Lucia |
| | DESIGN AND IMPLEMENTATION OF A TOOL FOR THE AUTOMATIC GENERATION OF TEST CASES Student: Giuseppe De Rosa – M.Sc. in Computer Science – Advisor: Prof. Andrea De Lucia |

PROFESSIONAL ACTIVITIES

ORGANIZATION COMMITTEE PARTICIPATION

- 2017** **SCIENTIFIC SECRETARIAT**
13th International Summer School on Software Engineering, University of Salerno, Italy
- 2016** **SCIENTIFIC SECRETARIAT**
12th International Summer School on Software Engineering, University of Salerno, Italy
- 2014** **VOLUNTEER**
GUADEC – The Gnome Conference, Strasbourg, France

PROGRAM COMMITTEE MEMBER

- 2017** International Conference on Advances in System Testing and Validation Lifecycle

REVIEWER

- INTERNATIONAL JOURNALS** Advances in Software Engineering, Elsevier
Arabian Journal for Science and Engineering, Springer
Journal of Software: Evolution and Process, Wiley
Journal of King Saud University - Computer and Information Sciences, Elsevier
- INTERNATIONAL CONFERENCES** IEEE International Conference on Software Analysis, Evolution, and Reengineering: 2017
IEEE International Conference on Program Comprehension: 2016
IEEE International Conference on Software Maintenance and Evolution: 2016 (ERA Track)
International Conference on Business Information Systems: 2015, 2016
International Conference on Distributed Multimedia Systems: 2015, 2016
International Conference on Enterprise Information Systems: 2015, 2016, 2017

INVITED TALKS

- 2017** **DIAGNOSE AND DETECT ENERGY FLAWS OF ANDROID APPS**
Vrije Universiteit Brussel, Bruxelles, Belgium. March 23rd 2017

PARTICIPATIONS AT CONFERENCES

- 2017** **CODEMOTION**
Amsterdam, The Netherlands
- 24TH IEEE INTERNATIONAL CONFERENCE ON SOFTWARE ANALYSIS, EVOLUTION, AND REENGINEERING (SANER)**
Klagenfurt, Austria
- 2016** **SYMPOSIUM ON SEARCH-BASED SOFTWARE ENGINEERING (SSBSE)**
Raleigh, NC, United States
- 2015** **SYMPOSIUM ON SEARCH-BASED SOFTWARE ENGINEERING (SSBSE)**
Bergamo, Italy
- 37TH ACM/IEEE INTERNATIONAL CONFERENCE ON SOFTWARE ENGINEERING (ICSE)**
Florence, Italy
- 12TH IEEE/ACM WORKING CONFERENCE ON MINING SOFTWARE REPOSITORIES (MSR)**
Florence, Italy
- 2014** **THE GNOME CONFERENCE (GUADEC)**
Strasbourg, France

AWARDS AND RECOGNITIONS

- 2017** **NSF TRAVEL SUPPORT**
Symposium on Search-Based Software Engineering (SSBSE), Raleigh, NC, United States
- 2015** **ACM SIGSOFT STUDENT TRAVEL GRANT**
37th ACM/IEEE International Conference on Software Engineering (ICSE), Florence, Italy

PUBLICATIONS

INTERNATIONAL CONFERENCES

- D. Di Nucci, F. Palomba, A. Prota, A. Panichella, A. Zaidman, A. De Lucia.
PETrA: a Software-Based Tool for Estimating the Energy Profile of Android Applications
In Proceedings of the 39th International Conference on Software Engineering (ICSE 2017) – Demonstrations Track, Buenos Aires, Argentina, 2017, 4 pages, 3-6.
- F. Palomba, D. Di Nucci, A. Panichella, A. Zaidman, A. De Lucia.
Lightweight Detection of Android-specific Code Smells: the aDoctor Project.
In Proceedings of the 24th IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER 2017) - Tool Track, Klagenfurt, Austria, 2017, 5 pages, 487-491
- D. Di Nucci, F. Palomba, A. Prota, A. Panichella, A. Zaidman, A. De Lucia.
Software-Based Energy Profiling of Android Apps: Simple, Efficient and Reliable?
In Proceedings of the 24th IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER 2017) - Klagenfurt, Austria, 2017, 12 pages, 103-114
- S. Scalabrino, G. Grano, D. Di Nucci, R. Oliveto, A. De Lucia
Search-based Testing of Procedural Programs: Iterative Single-Target or Multi-Target Approach?
In Proceedings of the Symposium on Search-Based Software Engineering (SSBSE 2016) - Raleigh, NC, United States, 2016, 15 pages, 64 - 79
- F. Palomba, D. Di Nucci, A. Panichella, R. Oliveto, A. De Lucia
On the Diffusion of Test Smells in Automatically Generated Test Code: An Empirical Study.
In Proceedings of the 9th International Workshop on Search-Based Software Testing (SBST 2016) - Austin, TX, United States, 2016, 10 pages, 5-14
- D. Di Nucci, F. Palomba, S. Siravo, G. Bavota, R. Oliveto, A. De Lucia
On the Role of Developer's Scattered Changes in Bug Prediction.
In Proceedings of the 31st International Conference on Software Maintenance and Evolution (ICSME 2015) - Bremen, Germany, 2015, 10 pages, 241-250
- F. Palomba, D. Di Nucci, M. Tufano, G. Bavota, R. Oliveto, D. Poshyvanyk, A. De Lucia
Landfill: an Open Dataset of Code Smells with Public Evaluation.
In Proceedings of the IEEE/ACM 12th Working Conference on Mining Software Repositories (MSR 2015) - Florence, Italy, 2015, 4 pages, 482-485
- D. Di Nucci, A. Panichella, A. Zaidman, A. De Lucia
Hypervolume-based Search for Test Case Prioritization.
In Proceedings of the Symposium on Search-Based Software Engineering (SSBSE 2015) - Bergamo, Italy, 2015, 15 pages, 157-172

INTERNATIONAL JOURNALS

D. Di Nucci, F. Palomba, R. Oliveto, A. De Lucia.

Dynamic Selection of Classifiers in Bug Prediction: an Adaptive Method.

IEEE Transactions on Emerging Topics in Computational Intelligence (TETCI), 2017, Volume 1 Issue 3, 11 pages, 202-212.

D. Di Nucci, F. Palomba, G. De Rosa, G. Bavota, R. Oliveto, A. De Lucia.

A Developer Centered Bug Prediction Model.

Transactions on Software Engineering (TSE), to appear.

Isernia, 16th June 2017

