

Dario Di Nucci – February 2019

Academic Portfolio

Dario Di Nucci, Male, Italian DATE OF BIRTH: 3 rd September, 1988 PLACE OF BIRTH: Isernia, Italy Languages: Italian (native), English (High B2)	ADDRESS: Louis Hapstraat 198, 1040 Brussels, Belgium PHONE: +32 486 13 99 51 E-MAIL: dario.di.nucci@vub.be WEBSITE: http://dardin88.github.io
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EDUCATION

2014/12 – 2018/03	DOCTOR OF PHILOSOPHY (PH.D.) IN MANAGEMENT & INFORMATION TECHNOLOGY University of Salerno, Italy Fully funded by University of Salerno Dissertation titled "Methods and Tools for Focusing and Prioritizing the Testing Effort" promoted by professor Andrea De Lucia
2017/06	13TH INTERNATIONAL SUMMER SCHOOL ON SOFTWARE ENGINEERING (ISSSE) University of Salerno, Fisciano, Italy
2017/03 – 2017/05	VISITING STUDENT Delft University of Technology, The Netherlands Supervision: Prof. Andy Zaidman
2016/05 – 2016/07	VISITING STUDENT Delft University of Technology, The Netherlands Supervision: Prof. Andy Zaidman
2016/06	12TH INTERNATIONAL SUMMER SCHOOL ON SOFTWARE ENGINEERING (ISSSE) University of Salerno, Fisciano, Italy
2015/09	INTERNATIONAL SUMMER SCHOOL ON SOFTWARE ENGINEERING (SE SCHOOL@UNIBZ 2015) Free University of Bolzano, Bolzano, Italy
2013/03	ERASMUS IP HUMAN-MACHINE INTERACTION Reims, France
2011/10 – 2014/09	MASTER'S DEGREE (M.Sc.) IN COMPUTER SCIENCE University of Salerno, Italy 110/110 cum laude Dissertation titled "A defect prediction model based on relationships between developers and modified files" promoted by professor Andrea De Lucia
2007/10 – 2011/05	BACHELOR'S DEGREE (B.Sc.) IN COMPUTER SCIENCE University of Molise, Italy 110/110 cum laude Dissertation titled "Applications of mathematical models to semantic research" promoted by professor Giovanni Capobianco

EMPLOYMENT HISTORY

01-2019 - ACTUAL	POST-DOCTORAL RESEARCHER Vrije Universiteit Brussel, Belgium FWO EOS project "SECO-ASSIST: Automated Assistance for Developing Software in Ecosystems of the Future" (https://secoassist.github.io/)
12-2019 – ACTUAL	POST-DOCTORAL LECTURER Vrije Universiteit Brussel, Belgium <i>Capita Selecta of Software Engineering</i> (elective course in first year Master's in Computer Science)
01/2018 – 12/2018	POST-DOCTORAL RESEARCHER Vrije Universiteit Brussel, Belgium Innoviris TeampUP project "INTiMALS INTelligent Modernisation Assistance for Legacy Software" (http://soft.vub.ac.be/intimals/)
2014/12 – 2018/03	PH.D. STUDENT IN MANAGEMENT & INFORMATION TECHNOLOGY University of Salerno, Italy Fully funded by University of Salerno. Advisor: Prof. Andrea De Lucia
04/2014 – 09/2014	SOFTWARE DEVELOPER Gnome and GraphHopper Google Summer of Code 2014
09/2011 – 01/2012	SOFTWARE DEVELOPER CercAziende.it, Venafro, Italy Development of a search engine for indexing and searching data on SQL databases
11/2005 – 12/2005	CUSTOMER SERVICE REPRESENTATIVE / TECHNICAL SUPPORT eliquidMEDIA International Inc., Windsor, ON, Canada Web development and customer relationship handling

ACADEMIC RECORD

1. JOURNAL PAPERS

- [J4] D. Di Nucci, A. Panichella, A. Zaidman, A. De Lucia
A Test Case Prioritization Genetic Algorithm guided by the Hypervolume Indicator
IEEE Transactions on Software Engineering (TSE), 2019, to appear.
- [J3] F. Palomba, D. Di Nucci, A. Panichella, A. Zaidman, A. De Lucia
On the Impact of Code Smells on the Energy Consumption of Mobile Applications
Elsevier Information and Software Technology (INFOSFT), 2019, Volume 105, 13 pages, 43-55.
- [J2] D. Di Nucci, F. Palomba, G. De Rosa, G. Bavota, R. Oliveto, A. De Lucia
A Developer Centered Bug Prediction Model
IEEE Transactions on Software Engineering (TSE), 2018, Volume 44 Issue 1, 21 pages, 5-24.
- [J1] 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.

2. CONFERENCE PAPERS, MAIN TRACK

- [C8] Y. Pacheco, J. De Bleser, T. Molderez, D. Di Nucci, W. De Meuter, C. De Roover
Mining Scala Framework Extensions for Recommendation Patterns
In Proceedings of the 26th IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER 2018) – Hangzhou, China, 2019, 10 pages, to appear.
- [C7] P. Salza, F. Palomba, D. Di Nucci, C. D'Uva, A. De Lucia, F. Ferrucci
Do Developers Update Third-Party Libraries in Mobile Apps?
In Proceedings of the IEEE/ACM 26th International Conference on Program Comprehension (ICPC 2018), Gothenburg, Sweden, 2018, 11 pages, 255 - 265.
- [C6] L. Pascarella, F. Geiger, F. Palomba, D. Di Nucci, I. Malavolta, A. Bacchelli
Self-Reported Activities of Android Developers
In Proceedings of the 5th IEEE/ACM International Conference on Mobile Software Engineering and Systems (MOBILESoft 2018), Gothenburg, Sweden, 2018, 12 pages, 144 - 155.
- [C5] D. Di Nucci, F. Palomba, D. A. Tamburri, A. Serebrenik, A. De Lucia
Detecting Code Smells using Machine Learning Techniques: Are We There Yet?
In Proceedings of the 25th IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER 2018) – Campobasso, Italy, 2018, 10 pages, 612 - 621.
- [C4] 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
- [C3] 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
- [C2] 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

[C1] 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

3. CONFERENCE PAPERS, TOOL DEMONSTRATIONS TRACK

[D5] S. Scalabrino, G. Grano, D. Di Nucci, M. Guerra, A. De Lucia, H. Gall, R. Oliveto

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

In Proceeding of the 33rd IEEE/ACM International Conference on Automated Software Engineering (ASE 2018) - Tool Demonstrations Track, Montpellier, France, 2018, 4 pages, to appear.

[D4] F. Geiger, I. Malavolta, L. Pascarella, F. Palomba, D. Di Nucci, A. Bacchelli

A Graph-based Dataset of Commit History of Real-World Android apps

In Proceedings of the IEEE/ACM 15th International Conference on Mining Software Repositories (MSR 2018), Gothenburg, Sweden, 2018, 5 pages, 30 - 33.

[D3] 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.

[D2] 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

[D1] 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

4. CONFERENCE PAPERS, MISCELLANEOUS TRACKS

[M1] D. Di Nucci

Methods and Tools for Focusing and Prioritizing the Testing Effort

In Proceeding of the 34th IEEE International Conference on Software Maintenance and Evolution (ICSME 2018) - Doctoral Symposium Track, Madrid, Spain, 2018, 5 pages, to appear.

5. PUBLISHED WORKSHOP PAPERS

[W4] D. Tamburri, F. Palomba, D. Di Nucci, L. Di Giacomo

Omniscient DevOps Analytics

In Software Engineering Aspects of Continuous Development and New Paradigms of Software Production and Deployment: First International Workshop (DEVOPS 2018), Chateau de Villebrumier, France, 2018, 48 - 59

[W3] D. Di Nucci, F. Palomba, A. De Lucia

Evaluating the Adaptive Selection of Classifiers for Cross-Project Bug Prediction

In Proceedings of the 6th International Workshop on Realizing Artificial Intelligence Synergies in Software Engineering (RAISE 2018), Gothenburg, Sweden, 2018, 7 pages, 48 - 54.

[W2] D. Di Nucci, A. De Lucia

The Role of Meta-Learners in the Adaptive Selection of Classifiers

In Proceeding of 2nd Workshop on Machine Learning Techniques for Software Quality Evaluation (MaLTesQuE 2018), Campobasso, Italy, 2018, 6 pages, 7 - 12.

[W1] 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

6. INVITED TALKS

- 2019** **[T4] MINING SOURCE CODE^3: MINING IDIOMS, USAGES AND EDITS**
FOSDEM, Brussels, Belgium, February 3rd 2019
- 2018** **[T3] DEFECT PREDICTION: USING MACHINE LEARNING FOR FOCUSING THE TESTING EFFORT**
Jheronimus Academy of Data Science, 's-Hertogenbosch, The Netherlands, March 9th 2018
- 2017** **[T2] DEFECT PREDICTION: USING MACHINE LEARNING FOR FOCUSING THE TESTING EFFORT**
Jheronimus Academy of Data Science, 's-Hertogenbosch, The Netherlands, December 5th 2017
- [T1] DIAGNOSE AND DETECT ENERGY FLAWS OF ANDROID APPS**
Vrije Universiteit Brussel, Brussels, Belgium. March 23rd 2017

7. SUPERVISION OF MASTER THESES

FINISHED, ADVISED:

- 2016** **[MT5] CHECKAPP: A TOOL FOR MONITORING JAVA APPLICATION PERFORMANCE**
Student: Elisa D'Eugenio – M.Sc. in Computer Science – Advisor: Prof. Andrea De Lucia
- [MT4] PETRA: A POWER ESTIMATION TOOL FOR ANDROID APPLICATIONS**
Student: Antonio Prota – M.Sc. in Computer Science – Advisor: Prof. Andrea De Lucia
- 2015** **[MT3] DEVELOPMENT AND COMPARISON OF NOVEL TECHNIQUES FOR SEARCH BASED TEST DATA GENERATION**
Student: Giovanni Grano – M.Sc. in Computer Science – Advisor: Prof. Andrea De Lucia
- [MT2] DESIGN AND DEVELOPMENT OF A TOOL FOR THE AUTOMATIC GENERATION OF TEST CASES**
Student: Simone Scalabrino – M.Sc. in Computer Science – Advisor: Prof. Andrea De Lucia
- [MT1] A COMBINED MODEL FOR THE PREDICTION OF DEFECTS**
Student: Giuseppe De Rosa – M.Sc. in Computer Science – Advisor: Prof. Andrea De Lucia

8. SUPERVISION OF BACHELOR THESES

FINISHED, ADVISED:

- 2017** **[BT9] DESIGN AND DEVELOPMENT OF METHODS FOR TEST CASE MINIMIZATION**
Student: Francesco De Feo – B.Sc. in Computer Science – Advisor: Prof. Andrea De Lucia
- [BT8] DESIGN AND DEVELOPMENT OF METHODS FOR TEST CASE PRIORITIZATION**
Student: Giuseppe Sessa – B.Sc. in Computer Science – Advisor: Prof. Andrea De Lucia

[BT7] DESIGN AND DEVELOPMENT OF A PLUGIN FOR OPTIMIZING REGRESSION TESTING

Student: Gerardo Della Monica – B.Sc. in Computer Science – Advisor: Prof. Andrea De Lucia

[BT6] DESIGN AND DEVELOPMENT OF A PLUGIN FOR THE DETECTION OF ENERGY DEFECTS OF MOBILE APPLICATIONS

Student: Sara Zaino – B.Sc. in Computer Science – Advisor: Prof. Andrea De Lucia

[BT5] DESIGN AND DEVELOPMENT OF A DEFECT PREDICTION TOOL

Student: Giuseppina Tufano – B.Sc. in Computer Science – Advisor: Prof. Andrea De Lucia

[BT4] DEVELOPMENT OF A SOFTWARE ENERGY ESTIMATION METHODOLOGY IN AN INTEGRATED DEVELOPMENT ENVIRONMENT

Student: Roberto Contaldo – B.Sc. in Computer Science – Advisor: Prof. Andrea De Lucia

[BT3] DESIGN AND DEVELOPMENT OF A DEFECT PREDICTION TOOL BY USING CROSS-PROJECT TECHNIQUES

Student: Pasquale Martiniello – B.Sc. in Computer Science – Advisor: Prof. Andrea De Lucia

2016

[BT2] TRIO: A TOOL FOR REGRESSION TESTING OPTIMIZATION

Student: Antonio Luca D'Avanzo – B.Sc. in Computer Science – Advisor: Prof. Andrea De Lucia

[BT1] DESIGN AND DEVELOPMENT OF A DEFECT PREDICTION TOOL

Student: Fabiano Pecorelli – B.Sc. in Computer Science – Advisor: Prof. Andrea De Lucia

9. SERVICE TO THE SCIENTIFIC COMMUNITY

ORGANIZATION OF SUMMER SCHOOLS

2019

COMMITTEE MEMBER

14th International Summer School on Software Engineering, University of Salerno, Italy

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

PROGRAM COMMITTEE MEMBER OF INTERNATIONAL CONFERENCES

2019

6th IEEE/ACM International Conference on Mobile Software Engineering and Systems (MOBILESoft) – Student Research Competition

5th International Conference on Advances and Trends in Software Engineering (SOFTENG)

2018

34th IEEE International Conference on Software Maintenance and Evolution (ICSME) - Tool Demo Track

5th IEEE/ACM International Conference on Mobile Software Engineering and Systems (MOBILESoft) – Student Research Competition

10th International Conference on Advances in System Testing and Validation Lifecycle (VALID)

2017

9th International Conference on Advances in System Testing and Validation Lifecycle (VALID)

PROGRAM COMMITTEE MEMBER OF INTERNATIONAL WORKSHOPS

2019

3rd Workshop on Machine Learning Techniques for Software Quality Evaluation (MaLTesQuE)

- 2018** 1st International Workshop on Cloud-Native Applications Design and Experience (CNAX)
- 2nd Workshop on Machine Learning Techniques for Software Quality Evaluation (MaLTaSQuE)

REVIEWER

- INTERNATIONAL JOURNALS** Advances in Software Engineering - Elsevier
Arabian Journal for Science and Engineering – Springer
Computational Intelligence - Wiley
Empirical Software Engineering - Springer
IEEE Access – IEEE
IET Software - Institution of Engineering and Technology
Information Processing Letters - Elsevier
Journal of King Saud University, Computer and Information Sciences - Elsevier
Journal of Software: Evolution and Process – Wiley
Journal of Systems and Software – Elsevier
Scientific Programming - Hidawi
Software Quality Journal – Springer
Transactions on Knowledge and Data Engineering - IEEE
- INTERNATIONAL CONFERENCES** IEEE International Conference on Software Analysis, Evolution, and Reengineering: 2017, 2018
IEEE International Conference on Program Comprehension: 2016, 2019
IEEE International Conference on Software Maintenance and Evolution: 2016 (ERA Track), 2018
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
International Conference on Mining Software Repositories: 2019

10. INTERNATIONAL EXPERIENCE

- 2017/03 – 2017/05** **VISITING STUDENT**
Delft University of Technology, The Netherlands
Supervision: Prof. Andy Zaidman
- 2016/05 – 2016/07** **VISITING STUDENT**
Delft University of Technology, The Netherlands
Supervision: Prof. Andy Zaidman
- 2013/03** **ERASMUS IP HUMAN-MACHINE INTERACTION**
Reims, France