Dario Di Nucci – February 2019
Academic Portfolio

Dario Di Nucci, Male, Italian **DATE OF BIRTH:** 3rd 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

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 *Capita Selecta of Software Engineering* (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 (INFSOFT), 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

[C11] F. Pecorelli, F. Palomba, D. Di Nucci, A. De Lucia
Comparing Heuristic and Machine Learning Approaches for Metric-Based Code Smell Detection
In Proceedings of the IEEE/ACM 27th International Conference on Program Comprehension (ICPC 2019), Montreal, Canada, 2019, X pages, to appear.

[C10] G. Catolino, D. Di Nucci, F. Ferrucci
Cross-Project Just-in-Time Bug Prediction for Mobile Apps: An Empirical Assessment
In Proceedings of the 6th IEEE/ACM International Conference on Mobile Software Engineering and Systems (MOBILESoft 2019), Montreal, Canada, 2019, X pages, to appear.

[C9] J. De Bleser, D. Di Nucci, C. De Roover
Assessing Diffusion and Perception of Test Smells in Scala Projects
In Proceedings of the IEEE/ACM 16th International Conference on Mining Software Repositories (MSR 2019), Montreal, Canada, 2019, X pages, to appear.

[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, 514 - 523.

[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 3³ᵈ 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   27th ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE) – Artefact Evaluation Track

	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 (MaLTeSQuE)

EDITORIAL BOARD MEMBER OF INTERNATIONAL JOURNALS

2019 - ACTUAL	IEEE Software Blog

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 Science of Computer Programming - 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