

Dario Di Nucci – April 2019

Curriculum Vitae – Including Summary of Publications

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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Dario Di Nucci is a research fellow at the Software Languages Lab of the Vrije Universiteit Brussel with Prof. Coen De Roover. He received a PhD in Management and Information Technology from the University of Salerno in 2018 advised by Prof. Andrea De Lucia with a thesis entitled "Methods and Tools for Focusing and Prioritizing the Testing Effort". His research is on empirical software engineering, in particular software maintenance and evolution and software testing. To this aim, he applies several techniques such as machine learning, search-based algorithms, and static analysis of source code.

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" advised by prof. Andrea De Lucia
2017/06	13TH INTERNATIONAL SUMMER SCHOOL ON SOFTWARE ENGINEERING (ISSSE) University of Salerno, 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, Italy
2015/09	INTERNATIONAL SUMMER SCHOOL ON SOFTWARE ENGINEERING (SE SCHOOL@UNIBZ 2015) Free University of 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

2018/12 – 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 – ACTUAL	POST-DOCTORAL RESEARCHER Vrije Universiteit Brussel, Belgium <i>Innoviris TeampUP project "INTiMALS INTelligent Modernisation Assistance for Legacy Software"</i> <i>FWO EOS project "SECO-ASSIST: Automated Assistance for Developing Software in Ecosystems of the Future"</i>
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
2014/04 – 2014/09	SOFTWARE DEVELOPER Gnome and GraphHopper Google Summer of Code 2014
2011/09 – 2012/01	SOFTWARE DEVELOPER CercAziende.it, Venafro, Italy Development of a search engine to index and search data on SQL databases
2005/11 – 2005/12	CUSTOMER SERVICE REPRESENTATIVE / TECHNICAL SUPPORT eliquidMEDIA International Inc., Windsor, ON, Canada Web development and customer relationship handling

TEACHING

CAPITA SELECTA OF SOFTWARE ENGINEERING (elective course in first year Master's in Computer Science)

Vrije Universiteit Brussel, Belgium

Co-holder of the course (holder: Prof. Coen De Roover)

2018-2019

SOFTWARE ENGINEERING, MANAGEMENT AND EVOLUTION (mandatory course in first year Master's in Computer Science)

University of Salerno, Italy

Teaching assistant (holder: Prof. Andrea De Lucia)

2016-2017, 2015-2016

PROGRAMMING I (mandatory course in first year Bachelor's in Computer Science)

University of Salerno, Italy

Teaching assistant

2016-2017 (holder: Prof. Riccardo Di Stasi)

2015-2016 (holder: Prof. Enrico Fischetti)

SOFTWARE ENGINEERING (mandatory course in third year Bachelor's in Computer Science)

University of Salerno, Italy

Teaching assistant (holder: Prof. Andrea De Lucia)

2016-2017, 2015-2016

WEB DEVELOPMENT (mandatory course in third year Bachelor's in Computer Science)

University of Salerno, Italy

Teaching assistant

2016-2017

SOFTWARE ENGINEERING: MAINTENANCE AND TESTING (mandatory course in first year Master's in Computer Science)

University of Salerno, Italy

Teaching assistant (holder: Prof. Andrea De Lucia)

2015-2016

SUPERVISION OF MASTER'S THESIS - GRADUATED, CO-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

SUPERVISION OF BACHELOR THESIS - GRADUATED, CO-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

ACADEMIC RECORD

Journal Articles: 4, Conference Papers: 11 (main track), 5 (tool demonstrations track), Workshop Papers: 4
Citations: 200, h-index: 10, <https://scholar.google.it/citations?user=YJqcbnIAAAAJ&hl=it>

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

- [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, 12 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, 12 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, 11 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, 868 - 871.

[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. Poshypanyk, 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, 722 - 726.

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: 1st 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. SERVICE TO THE SCIENTIFIC COMMUNITY

ORGANIZATION OF SUMMER SCHOOLS

2019	COMMITTEE MEMBER 14 th International Summer School on Software Engineering, University of Salerno, Italy
2017	SCIENTIFIC SECRETARIAT 13 th International Summer School on Software Engineering, University of Salerno, Italy
2016	SCIENTIFIC SECRETARIAT 12 th International Summer School on Software Engineering, University of Salerno, Italy

PROGRAM COMMITTEE MEMBER OF INTERNATIONAL CONFERENCES

2019	35 th IEEE International Conference on Software Maintenance and Evolution (ICSME) - Tool Demo Track 27 th ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE) – Artefact Evaluation Track 6 th IEEE/ACM International Conference on Mobile Software Engineering and Systems (MOBILESoft) – Student Research Competition 5 th International Conference on Advances and Trends in Software Engineering (SOFTENG)
2018	34 th IEEE International Conference on Software Maintenance and Evolution (ICSME) - Tool Demo Track 5 th IEEE/ACM International Conference on Mobile Software Engineering and Systems (MOBILESoft) – Student Research Competition 10 th International Conference on Advances in System Testing and Validation Lifecycle (VALID)
2017	9 th International Conference on Advances in System Testing and Validation Lifecycle (VALID)

PROGRAM COMMITTEE MEMBER OF INTERNATIONAL WORKSHOPS

2019	3 rd Workshop on Machine Learning Techniques for Software Quality Evaluation (MaLTesQuE)
2018	1 st International Workshop on Cloud-Native Applications Design and Experience (CNAX) 2 nd Workshop on Machine Learning Techniques for Software Quality Evaluation (MaLTesQuE)

EDITORIAL BOARD MEMBER OF INTERNATIONAL JOURNALS AND BLOG

2019 - ACTUAL	IEEE Software Blog
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REVIEWER

INTERNATIONAL JOURNALS	Advances in Software Engineering - Elsevier Arabian Journal for Science and Engineering – Springer
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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, 2019
 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

8. AWARDS

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