

Dario Di Nucci

Curriculum Vitae - Including Summary of Publications

Dario Di Nucci, Male, Italian DATE OF BIRTH: September 3rd, 1988 PLACE OF BIRTH: Isernia, Italy Languages: Italian (native), English (C1)	ADDRESS: Via Raffaele Iorio, 27 - 86170 Isernia - IT E-MAIL: ddinucci@unisa.it WEBSITE: http://dardin88.github.io
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Dario Di Nucci is an assistant professor at the Software Engineering (SeSa) Lab of the University of Salerno. He received a European Ph.D. degree in Management & Information Technology from the University of Salerno in 2018, advised by Prof. Andrea De Lucia.

His research is on empirical software engineering, particularly software maintenance and evolution and software testing, where he applies machine learning, search-based algorithms, and mining of software repositories.

He is a member at large of the IEEE Conference Activities Committee. He serves as editor for Elsevier Journal of Systems and Software and Elsevier Science of Computer Programming, program committee member for international conferences, and referee for international journals in software engineering and artificial intelligence, for which he received several Distinguished/Outstanding Reviewer Awards.

He is an IEEE Software initiative team member and the social media manager of Elsevier Science of Computer Programming. He is a member of the OASIS TOSCA technical committee and co-leads the OASIS TOSCA "Emerging Compute Platforms ad-hoc".

LICENSES AND CERTIFICATIONS

2022	BASIC KWALIFICATIE ONDERWIJS (BKO) - UNIVERSITY TEACHING QUALIFICATION (UTQ) Issued by Tilburg University
2020	ABILITAZIONE SCIENTIFICA NAZIONALE - SETTORE CONCORSUALE 01/B1 - INFORMATICA - FASCIA II Issued by Italian Ministry of University and Research. Valid from 23/11/2020 to 23/11/2030 https://asn18.cineca.it/pubblico/miur/esito-abilitato/01%252FB1/2/5 ABILITAZIONE SCIENTIFICA NAZIONALE - SETTORE CONCORSUALE 09/H1 - SISTEMI DI ELABORAZIONE DELLE INFORMAZIONI - FASCIA II Issued by Italian Ministry of University and Research. Valid from 13/11/2020 to 13/11/2030 https://asn18.cineca.it/pubblico/miur/esito-abilitato/09%252FH1/2/5
2014	ABILITAZIONE ALLA PROFESSIONE DI INGEGNERE Issued by University of Molise in December 2014

EMPLOYMENT HISTORY

01/2022 - CURRENT	ASSISTANT PROFESSOR (I.E., RICERCATORE A TEMPO DETERMINATO DI TIPO B) University of Salerno, Italy <ul style="list-style-type: none">- Course Holder of Empirical Research Methods (Ph.D. in Computer Science)- Course Holder of Software Dependability (M.Sc. in Computer Science)- Lecturer of Object Oriented Programming (B.Sc. in Computer Science)- Lecturer of Software Engineering, Management, and Evolution (M.Sc. in Computer Science)
01/2020 - 12/2021	ASSISTANT PROFESSOR Jheronimus Academy of Data Science, Tilburg University, The Netherlands <ul style="list-style-type: none">- Work Package Leader of the EU Horizon 2020 project "RADON: Rational decomposition and orchestration for serverless computing" (https://radon-h2020.eu/)- M.Sc. Thesis Coordinator

- Course Holder of Introduction to Machine Learning (Pre-M.Sc. in Data Science and Entrepreneurship)
- Lecturer of Data Engineering (M.Sc. in Data Science and Entrepreneurship)
- Lecturer of Statistics (B.Sc. in Data Science)

01/2018 - 12/2019

POST-DOCTORAL RESEARCHER

Vrije Universiteit Brussel, Belgium

- Researcher in the FWO EOS project "SECO-ASSIST: Automated Assistance for Developing Software in Ecosystems of the Future" (<https://secoassist.github.io/>)
- Researcher in the Innoviris TeampUP project "INTiMALS INTeLLigent Modernisation Assistance for Legacy Software" (<http://soft.vub.ac.be/intimals/>)
- Lecturer of Capita Selecta of Software Engineering (M.Sc. in Computer Science)

12/2014 - 03/2018

PH.D. STUDENT IN MANAGEMENT & INFORMATION TECHNOLOGY

University of Salerno, Italy

Fully funded by University of Salerno. Advisor: Prof. Andrea De Lucia

EDUCATION

12/2014 - 03/2018

DOCTOR OF PHILOSOPHY (PH.D.) IN MANAGEMENT & INFORMATION TECHNOLOGY

University of Salerno, Italy

Fully funded by University of Salerno

Dissertation: "Methods and Tools for Focusing and Prioritizing the Testing Effort"

Advisor: Prof. Andrea De Lucia

06/2017

13TH INTERNATIONAL SUMMER SCHOOL ON SOFTWARE ENGINEERING (ISSSE)

University of Salerno, Italy

03/2017 - 05/2017

VISITING STUDENT

05/2016 - 07/2016

Delft University of Technology, The Netherlands

Advisor: Prof. Andy Zaidman

06/2016

12TH INTERNATIONAL SUMMER SCHOOL ON SOFTWARE ENGINEERING (ISSSE)

University of Salerno, Italy

09/2015

INTERNATIONAL SUMMER SCHOOL ON SOFTWARE ENGINEERING (SE SCHOOL@UNIBZ 2015)

Free University of Bolzano, Italy

03/2013

ERASMUS IP HUMAN-MACHINE INTERACTION

Reims, France

10/2011 - 09/2014

MASTER'S DEGREE (M.Sc.) IN COMPUTER SCIENCE

University of Salerno, Italy

110/110 cum laude

Dissertation: "A defect prediction model based on relationships between developers and modified files"

Promotor: Prof. Andrea De Lucia

10/2007 - 05/2011

BACHELOR'S DEGREE (B.Sc.) IN COMPUTER SCIENCE

University of Molise, Italy

110/110 cum laude

Dissertation: "Applications of mathematical models to semantic research"

Promotor: Prof. Giovanni Capobianco

TEACHING

EMPIRICAL RESEARCH METHODS (course of the Ph.D. in Computer Science)

University of Salerno, Italy

Course holder (taught with Dr. Fabio Palomba) - Summer - 2023

SOFTWARE DEPENDABILITY (mandatory course of the Master's in Computer Science)

University of Salerno, Italy

Course coordinator - Spring - 2023

Lecturer (course holder: Dr. Fabio Palomba) - Spring - 2022

OBJECT ORIENTED PROGRAMMING (mandatory course of the Bachelor's in Computer Science)

University of Salerno, Italy

Lecturer (course holder: Prof. Vincenzo Deufemia) - Fall - 2022

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

University of Salerno, Italy

Lecturer (course holder: Prof. Andrea De Lucia) - Spring - 2022

DATA ENGINEERING (mandatory course of the Master's in Data Science and Entrepreneurship)

Jheronimus Academy of Data Science, (Tilburg University, Eindhoven University of Technology), The Netherlands

Lecturer (course holder: Prof. Damian A. Tamburri) - Fall - 2020 and 2021

INTRODUCTION TO MACHINE LEARNING (mandatory course of the Pre-Master's in Data Science and Entrepreneurship)

Jheronimus Academy of Data Science, (Tilburg University, Eindhoven University of Technology), The Netherlands

Course holder - Spring - 2021

Lecturer (course holder: Prof. Damian A. Tamburri) - Spring - 2020

DATA STATISTICS (mandatory course of the Bachelor's in Data Science)

Tilburg University, Eindhoven University of Technology, The Netherlands

Lecturer (course holder: Prof. Maurits C. Kaptein) - Fall - 2019

CAPITA SELECTA OF SOFTWARE ENGINEERING (elective course of the Master's in Computer Science)

Vrije Universiteit Brussel, Belgium

Lecturer (course holder: Prof. Coen De Roover) - annual course - 2018/2019 and 2019/2020

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

University of Salerno, Italy

Teaching assistant (course holder: Prof. Andrea De Lucia) - Spring - 2016 and 2017

SOFTWARE ENGINEERING (mandatory course of the Bachelor's in Computer Science)

University of Salerno, Italy

Teaching assistant (course holder: Prof. Andrea De Lucia) - Fall - 2015 and 2016

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

University of Salerno, Italy

Teaching assistant - Fall - 2016

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

University of Salerno, Italy

Teaching assistant - Fall - 2015 (course holder: Prof. Enrico Fischetti) and 2016 (course coordinator: Prof. Riccardo Di Stasi)

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

University of Salerno, Italy

Teaching assistant (course holder: Prof. Andrea De Lucia) - Fall - 2015

SUPERVISION

SUPERVISION OF PH.D. THESES

- 2020** **[PT1] AN AUTOMATED DELTA-DEBUGGING APPROACH TO RESILIENCE TESTING OF ACTOR SYSTEMS THROUGH FAULT INJECTION**
Jonas De Bleser - Ph.D. in Computer Science - Advisor: Prof. Coen De Roover

SUPERVISION OF MASTER'S THESES

- 2022** **[MT17] MACHINE LEARNING FOR CODE SEARCH: A SYSTEMATIC REVIEW AND INDUSTRIAL FEASIBILITY STUDY**
Ashley Van Can - M.Sc. in Data Science and Entrepreneurship - Promotor: Dr. Dario Di Nucci
- [MT16] DETECTING ROAD SURFACE ANOMALIES USING MULTIMODAL MACHINE LEARNING**
Joël Luijmes - M.Sc. in Data Science and Entrepreneurship - Promotor: Prof. Willem-Jan van den Heuvel
- [MT15] ON THE USE OF AUTOMATIC CLASSIFICATION FOR BUG TRIAGING IN INDUSTRY**
Christos Kitsanelis - M.Sc. in Computer Science and Engineering - Promotor: Dr. Eleni Constantinou
- [MT14] DUTCH TEXT GENERATION TO COMBAT CLASS IMBALANCE**
Ellen Mans - M.Sc. in Data Science and Entrepreneurship - Promotor: Dr. Dario Di Nucci
- 2021** **[MT13] ENRICHING A POINTS-OF-INTEREST DATASET BY APPLYING LOCATION EXTRACTION AND WEBSITE CLASSIFICATION ON SCRAPED BUSINESS WEBSITES**
Paulo Rijnberg - M.Sc. in Data Science and Entrepreneurship - Promotor: Dr. Daan Kolkman
- [MT12] TOWARD FURTHER AUTOMATION OF WEAK SUPERVISION - A TEXT CLASSIFICATION CASE STUDY**
Christos Papasimos - M.Sc. in Data Science and Entrepreneurship - Promotor: Prof. Damian A. Tamburri
- [MT11] VARIATIONAL TASK ENCODERS FOR MODEL-AGNOSTIC META-LEARNING WITH UNCERTAINTY OVER TASK DISTRIBUTIONS**
Luuk Schagen - M.Sc. in Data Science and Entrepreneurship - Promotor: Dr. Joaquin Vanschoren
- [MT10] PREDICTING REVENUE OF COMMERCIAL CLIENTS OF A DUTCH FINANCIAL INSTITUTION USING MACHINE LEARNING**
Jens van de Zande - M.Sc. in Data Science and Entrepreneurship - Promotor: Dr. Dario Di Nucci
- [MT9] PREDICTING SECURITY-RELEVANT COMMITS WITH STATIC CODE ANALYZERS**
Therese Fehrer - M.Sc. in Data Science and Entrepreneurship - Promotor: Prof. Damian A. Tamburri
- 2020** **[MT8] SOURCE CODE MEASUREMENTS FOR MACHINE LEARNING-BASED SMELL DETECTION IN INFRASTRUCTURE AS CODE: A TOSCA CASE-STUDY**
Chiel van Asseldonk - M.Sc. in Data Science and Entrepreneurship - Promotor: Prof. Damian A. Tamburri
- [MT7] MEASURING COMPETITIVENESS BASED ON INSTAGRAM FOLLOWER COMMUNICATION**
Niels van Gorsel - M.Sc. in Data Science and Entrepreneurship - Promotor: Dr. Shantanu Mullick
- [MT6] HEURISTIC-GUIDED RESILIENCE TESTING OF PERSISTENT ACTOR IMPLEMENTATIONS**
Patrick Muriuki Gakuo - M.Sc. in Computer Science - Promotor: Prof. Coen De Roover
- 2016** **[MT5] CHECKAPP: A TOOL FOR MONITORING JAVA APPLICATION PERFORMANCE**
Elisa D'Eugenio - M.Sc. in Computer Science - Promotor: Prof. Andrea De Lucia
- [MT4] PETRA: A POWER ESTIMATION TOOL FOR ANDROID APPLICATIONS**
Antonio Prota - M.Sc. in Computer Science - Promotor: Prof. Andrea De Lucia

- 2015**
- [MT3] DEVELOPMENT AND COMPARISON OF NOVEL TECHNIQUES FOR SEARCH-BASED TEST DATA GENERATION**
Giovanni Grano - M.Sc. in Computer Science - Promotor: Prof. Andrea De Lucia
- [MT2] DESIGN AND DEVELOPMENT OF A TOOL FOR THE AUTOMATIC GENERATION OF TEST CASES**
Simone Scalabrino - M.Sc. in Computer Science - Promotor: Prof. Andrea De Lucia
- [MT1] A COMBINED MODEL FOR THE PREDICTION OF DEFECTS**
Giuseppe De Rosa - M.Sc. in Computer Science - Promotor: Prof. Andrea De Lucia

SUPERVISION OF BACHELOR'S THESES

- 2022**
- [BT11] ANALYSIS OF AUTONOMOUS DRIVING SYSTEMS IN A SIMULATED ENVIRONMENT**
Mihai Alexandru Burlacu - B.Sc. in Computer Science - Promotor: Dr. Dario Di Nucci
- [BT10] IDENTIFICATION OF LINGUISTIC SMELLS IN INFRASTRUCTURE AS CODE**
Danilo Aliberti - B.Sc. in Computer Science - Promotor: Dr. Fabio Palomba
- 2017**
- [BT9] DESIGN AND DEVELOPMENT OF METHODS FOR TEST CASE MINIMIZATION**
Francesco De Feo - B.Sc. in Computer Science - Promotor: Prof. Andrea De Lucia
- [BT8] DESIGN AND DEVELOPMENT OF METHODS FOR TEST CASE PRIORITIZATION**
Giuseppe Sessa - B.Sc. in Computer Science - Promotor: Prof. Andrea De Lucia
- [BT7] DESIGN AND DEVELOPMENT OF A PLUGIN FOR OPTIMIZING REGRESSION TESTING**
Gerardo Della Monica - B.Sc. in Computer Science - Promotor: Prof. Andrea De Lucia
- [BT6] DESIGN AND DEVELOPMENT OF A PLUGIN FOR THE DETECTION OF ENERGY DEFECTS OF MOBILE APPLICATIONS**
Sara Zaino - B.Sc. in Computer Science - Promotor: Prof. Andrea De Lucia
- [BT5] DESIGN AND DEVELOPMENT OF A DEFECT PREDICTION TOOL**
Giuseppina Tufano - B.Sc. in Computer Science - Promotor: Prof. Andrea De Lucia
- [BT4] DEVELOPMENT OF A SOFTWARE ENERGY ESTIMATION METHODOLOGY IN AN INTEGRATED DEVELOPMENT ENVIRONMENT**
Roberto Contaldo - B.Sc. in Computer Science - Promotor: Prof. Andrea De Lucia
- [BT3] DESIGN AND DEVELOPMENT OF A DEFECT PREDICTION TOOL BY USING CROSS-PROJECT TECHNIQUES**
Pasquale Martiniello - B.Sc. in Computer Science - Advisor: Prof. Andrea De Lucia
- 2016**
- [BT2] TRIO: A TOOL FOR REGRESSION TESTING OPTIMIZATION**
Antonio Luca D'Avanzo - B.Sc. in Computer Science - Promotor: Prof. Andrea De Lucia
- [BT1] DESIGN AND DEVELOPMENT OF A DEFECT PREDICTION TOOL**
Fabiano Pecorelli - B.Sc. in Computer Science - Promotor: Prof. Andrea De Lucia

ACADEMIC RECORD

Journal Articles: 17

Conference Papers: 14 (main track), 8 (tool demonstration track), 8 (miscellaneous tracks)

Workshop Papers: 10

Citations: 1449 on Google Scholar, h-index: 22, <https://scholar.google.it/citations?user=YJqcbnlAAAAJ>

963 on Scopus, h-index: 17, <https://www.scopus.com/authid/detail.uri?authorId=57016777600>

JOURNAL PAPERS

[J17] FINDICI: USING MACHINE-LEARNING TO DETECT LINGUISTIC INCONSISTENCIES BETWEEN CODE AND NATURAL LANGUAGE DESCRIPTIONS IN INFRASTRUCTURE-AS-CODE

N. Borovits, I. Kumara, D. Di Nucci, P. Krishnan, S. Dalla Palma, F. Palomba, D. A. Tamburri, W.-J. van den Heuvel
Springer Empirical Software Engineering (EMSE), 2022, Volume 27, Issue 7, 30 pages.

[J16] THE MAKING OF ACCESSIBLE ANDROID APPLICATIONS: AN EMPIRICAL STUDY ON THE STATE OF THE PRACTICE

M. Di Gregorio, D. Di Nucci, F. Palomba, G. Vitiello
Springer Empirical Software Engineering (EMSE), 2022, Volume 27, Issue 6, 37 pages.

[J15] GO SERVERLESS WITH RADON! A PRACTICAL DEVOPS EXPERIENCE REPORT

S. Dalla Palma, G. Catolino, D. Di Nucci, D. A. Tamburri, W.-J. van den Heuvel
IEEE Software, 2022, 6 pages, In press

[J14] SOFTWARE ENGINEERING FOR QUANTUM PROGRAMMING: HOW FAR ARE WE?

M. De Stefano, F. Pecorelli, D. Di Nucci, F. Palomba, A. De Lucia
Elsevier Journal of Systems and Software (JSS), 2022, Volume 190, 15 pages

[J13] THE DO'S AND DON'TS OF INFRASTRUCTURE CODE: A SYSTEMATIC GREY LITERATURE REVIEW

I. Kumara, M. Garriga, A. U. Romeu, F. Palomba, D. Di Nucci, D. A. Tamburri, W.-J. van den Heuvel
Elsevier Information and Software Technology (INFOSOFTE), 2021, Volume 137, 20 pages

[J12] ADAPTIVE SELECTION OF CLASSIFIERS FOR BUG PREDICTION: A LARGE-SCALE EMPIRICAL ANALYSIS OF ITS PERFORMANCES AND A BENCHMARK STUDY

F. Pecorelli, D. Di Nucci
Elsevier Science of Computer Programming (SCICO), 2021, Volume 295, 18 pages

[J11] WITHIN-PROJECT DEFECT PREDICTION OF INFRASTRUCTURE-AS-CODE USING PRODUCT AND PROCESS METRICS

S. Dalla Palma, D. Di Nucci, F. Palomba, D. A. Tamburri
IEEE Transactions on Software Engineering (TSE), 2021, Volume 48, Issue 6, 19 pages, 2086-2104

[J10] PRIORITISING SERVER SIDE REACHABILITY VIA INTER-PROCESS CONCOLIC TESTING

M. Vandercammen, L. Christophe, D. Di Nucci, W. De Meuter, C. De Roover
The Art, Science, and Engineering of Programming, 2021, Volume 5, Issue 2, 34 pages

[J9] ANSIBLEMETRICS: A PYTHON LIBRARY FOR MEASURING INFRASTRUCTURE-AS-CODE BLUEPRINTS IN ANSIBLE

S. Dalla Palma, D. Di Nucci, D. A. Tamburri
SoftwareX, 2020, Volume 12, 6 pages

[J8] TOWARD A CATALOG OF SOFTWARE QUALITY METRICS FOR INFRASTRUCTURE CODE

S. Dalla Palma, D. Di Nucci, F. Palomba, D. A. Tamburri
Elsevier Journal of Systems and Software (JSS), 2020, Volume 170, 8 pages.

[J7] A LARGE EMPIRICAL ASSESSMENT OF THE ROLE OF DATA BALANCING IN MACHINE-LEARNING-BASED CODE SMELL DETECTION

F. Pecorelli, D. Di Nucci, C. De Roover, A. De Lucia
Elsevier Journal of Systems and Software (JSS), 2020, Volume 169, 16 pages.

[J6] SCENTED SINCE THE BEGINNING: ON THE DIFFUSENESS OF TEST SMELLS IN AUTOMATICALLY GENERATED TEST CODE

G. Grano, F. Palomba, D. Di Nucci, A. De Lucia, H. Gall
Elsevier Journal of Systems and Software (JSS), 2019, Volume 156, 16 pages, 312-327

[J5] THIRD-PARTY LIBRARIES IN MOBILE APPS WHEN, HOW, AND WHY DEVELOPERS UPDATE THEM

P. Salza, F. Palomba, D. Di Nucci, A. De Lucia, F. Ferrucci

Springer Empirical Software Engineering (EMSE), 2019, Volume 25, 37 pages, 2341-2377

[J4] A TEST CASE PRIORITIZATION GENETIC ALGORITHM GUIDED BY THE HYPERVOLUME INDICATOR

D. Di Nucci, A. Panichella, A. Zaidman, A. De Lucia

IEEE Transactions on Software Engineering (TSE), 2019, Volume 46, Issue 6, 674-696

[J3] ON THE IMPACT OF CODE SMELLS ON THE ENERGY CONSUMPTION OF MOBILE APPLICATIONS

F. Palomba, D. Di Nucci, A. Panichella, A. Zaidman, A. De Lucia

Elsevier Information and Software Technology (INFOSOFTE), 2019, Volume 105, 13 pages, 43-55

[J2] A DEVELOPER CENTERED BUG PREDICTION MODEL

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

IEEE Transactions on Software Engineering (TSE), 2018, Volume 44 Issue 1, 21 pages, 5-24

[J1] DYNAMIC SELECTION OF CLASSIFIERS IN BUG PREDICTION: AN ADAPTIVE METHOD

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

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

CONFERENCE PAPERS, MAIN TRACK

[C14] A MULTIVOCAL LITERATURE REVIEW OF MLOPS TOOLS AND FEATURES

G. Recupito, F. Pecorelli, G. Catolino, S. Moreschini, D. Di Nucci, F. Palomba, D. A. Tamburri

48th Euromicro Conference on Software Engineering and Advanced Applications (Euromicro SEAA 2022)

Maspalomas, Spain, 2022, 8 pages, to appear

[C13] EXPLOITING DYNAMIC ANALYSIS FOR ARCHITECTURAL SMELL DETECTION: A PRELIMINARY STUDY

I. Pigazzini, D. Di Nucci, F. Arcelli Fontana, M. Belotti

48th Euromicro Conference Series on Software Engineering and Advanced Applications (Euromicro SEAA 2022)

Maspalomas, Spain, 2022, 8 pages, to appear

[C12] A DELTA-DEBUGGING APPROACH TO ASSESSING THE RESILIENCE OF ACTOR PROGRAMS THROUGH RUN-TIME TEST PERTURBATIONS

J. De Bleser, D. Di Nucci, C. De Roover

1st IEEE/ACM International Conference on Automation of Software Test (AST 2020)

Virtual (originally Seoul, South Korea), 2020, 10 pages, 21-30

[C11] COMPARING HEURISTIC AND MACHINE LEARNING APPROACHES FOR METRIC-BASED CODE SMELL DETECTION

F. Pecorelli, F. Palomba, D. Di Nucci, A. De Lucia

27th IEEE/ACM International Conference on Program Comprehension (ICPC 2019)

Montreal, Canada, 2019, 12 pages, 93-104

[C10] CROSS-PROJECT JUST-IN-TIME BUG PREDICTION FOR MOBILE APPS: AN EMPIRICAL ASSESSMENT

G. Catolino, D. Di Nucci, F. Ferrucci

6th IEEE/ACM International Conference on Mobile Software Engineering and Systems (MOBILESoft 2019)

Montreal, Canada, 2019, 12 pages, 99-110

[C9] ASSESSING DIFFUSION AND PERCEPTION OF TEST SMELLS IN SCALA PROJECTS

J. De Bleser, D. Di Nucci, C. De Roover

16th IEEE/ACM International Conference on Mining Software Repositories (MSR 2019)

Montreal, Canada, 2019, 11 pages, 457-467

[C8] MINING SCALA FRAMEWORK EXTENSIONS FOR RECOMMENDATION PATTERNS

Y. Pacheco, J. De Bleser, T. Molderez, D. Di Nucci, W. De Meuter, C. De Roover

26th IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER 2018)

Hangzhou, China, 2019, 10 pages, 514-523

[C7] DO DEVELOPERS UPDATE THIRD-PARTY LIBRARIES IN MOBILE APPS?

P. Salza, F. Palomba, D. Di Nucci, C. D'Uva, A. De Lucia, F. Ferrucci

IEEE/ACM 26th International Conference on Program Comprehension (ICPC 2018)

Gothenburg, Sweden, 2018, 11 pages, 255-265

[C6] SELF-REPORTED ACTIVITIES OF ANDROID DEVELOPERS

L. Pascarella, F. Geiger, F. Palomba, D. Di Nucci, I. Malavolta, A. Bacchelli
5th IEEE/ACM International Conference on Mobile Software Engineering and Systems (MOBILESoft 2018)
Gothenburg, Sweden, 2018, 12 pages, 144-155

[C5] DETECTING CODE SMELLS USING MACHINE LEARNING TECHNIQUES: ARE WE THERE YET?

D. Di Nucci, F. Palomba, D. A. Tamburri, A. Serebrenik, A. De Lucia
25th IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER 2018)
Campobasso, Italy, 2018, 10 pages, 612-621

[C4] SOFTWARE-BASED ENERGY PROFILING OF ANDROID APPS: SIMPLE, EFFICIENT AND RELIABLE?

D. Di Nucci, F. Palomba, A. Prota, A. Panichella, A. Zaidman, A. De Lucia
24th IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER 2017)
Klagenfurt, Austria, 2017, 12 pages, 103-114

[C3] SEARCH-BASED TESTING OF PROCEDURAL PROGRAMS: ITERATIVE SINGLE-TARGET OR MULTI-TARGET APPROACH?

S. Scalabrino, G. Grano, D. Di Nucci, R. Oliveto, A. De Lucia
Symposium on Search-Based Software Engineering (SSBSE 2016)
Raleigh, NC, United States, 2016, 15 pages, 64-79

[C2] ON THE ROLE OF DEVELOPER'S SCATTERED CHANGES IN BUG PREDICTION

D. Di Nucci, F. Palomba, S. Siravo, G. Bavota, R. Oliveto, A. De Lucia
31st IEEE International Conference on Software Maintenance and Evolution (ICSME 2015)
Bremen, Germany, 2015, 10 pages, 241-250

[C1] HYPERVOLUME-BASED SEARCH FOR TEST CASE PRIORITIZATION

D. Di Nucci, A. Panichella, A. Zaidman, A. De Lucia
Symposium on Search-Based Software Engineering (SSBSE 2015)
Bergamo, Italy, 2015, 15 pages, 157-172

CONFERENCE PAPERS, TOOL DEMONSTRATIONS TRACK

[D8] DEFUSE: A DATA ANNOTATOR AND MODEL BUILDER FOR SOFTWARE DEFECT PREDICTION

S. Dalla Palma, D. Di Nucci, D. A. Tamburri
38th IEEE International Conference on Software Maintenance and Evolution (ICSME 2022)
Limassol, Cyprus, 2022, 5 pages, to appear

[D7] REFACTORING ANDROID-SPECIFIC ENERGY SMELLS: A PLUGIN FOR ANDROID STUDIO

E. Iannone, F. Pecorelli, D. Di Nucci, F. Palomba, A. De Lucia
IEEE/ACM 28th International Conference on Program Comprehension (ICPC 2020)
Virtual (originally Seoul, South Korea), 2020, 5 pages, 451-455

[D6] SOCRATES - SCALA RADAR FOR TEST SMELLS

J. De Bleser, D. Di Nucci, C. De Roover
10th ACM SIGPLAN Scala Symposium (SCALA 2019)
London, United Kingdom, 2019, 5 pages, 22-26

[D5] OCELOT: A SEARCH-BASED TEST-DATA GENERATION TOOL FOR C

S. Scalabrino, G. Grano, D. Di Nucci, M. Guerra, A. De Lucia, H. Gall, R. Oliveto
33rd IEEE/ACM International Conference on Automated Software Engineering (ASE 2018)
Montpellier, France, 2018, 4 pages, 868-871

[D4] A GRAPH-BASED DATASET OF COMMIT HISTORY OF REAL-WORLD ANDROID APPS

F. Geiger, I. Malavolta, L. Pascarella, F. Palomba, D. Di Nucci, A. Bacchelli
IEEE/ACM 15th International Conference on Mining Software Repositories (MSR 2018)
Gothenburg, Sweden, 2018, 5 pages, 30-33

[D3] PETra: A SOFTWARE-BASED TOOL FOR ESTIMATING THE ENERGY PROFILE OF ANDROID APPLICATIONS

D. Di Nucci, F. Palomba, A. Prota, A. Panichella, A. Zaidman, A. De Lucia
39th IEEE/ACM International Conference on Software Engineering (ICSE 2017)
Buenos Aires, Argentina, 2017, 4 pages, 3-6

[D2] LIGHTWEIGHT DETECTION OF ANDROID-SPECIFIC CODE SMELLS: THE ADOCTOR PROJECT

F. Palomba, D. Di Nucci, A. Panichella, A. Zaidman, A. De Lucia
24th IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER 2017)
Klagenfurt, Austria, 2017, 5 pages, 487-491

[D1] LANDFILL: AN OPEN DATASET OF CODE SMELLS WITH PUBLIC EVALUATION

F. Palomba, D. Di Nucci, M. Tufano, G. Bavota, R. Oliveto, D. Poshyvanyk, A. De Lucia
IEEE/ACM 12th Working Conference on Mining Software Repositories (MSR 2015)
Florence, Italy, 2015, 4 pages, 482-485

CONFERENCE PAPERS, MISCELLANEOUS TRACKS

[M8] MACHINE LEARNING-BASED TEST SMELL DETECTION

V. Pontillo, D. Amoroso d'Aragona, F. Pecorelli, D. Di Nucci, F. Ferrucci and F. Palomba
38th IEEE International Conference on Software Maintenance and Evolution (ICSME 2022)
Registered Reports Track, Limassol, Cyprus, 2022, 8 pages, to appear

[M7] ON THE RELATION OF ARCHITECTURAL TO TEST SMELLS: A PRELIMINARY INVESTIGATION

M. De Stefano, F. Pecorelli, D. Di Nucci, A. De Lucia
22nd IEEE International Working Conference on Source Code Analysis and Manipulation (SCAM 2022)
New Ideas and Emerging Results Track, Limassol, Cyprus, 2022, 5 pages, to appear

[M6] TOWARD AUTOMATED EXPLOIT GENERATION FOR KNOWN VULNERABILITIES IN OPEN-SOURCE LIBRARIES

E. Iannone, D. Di Nucci, A. Sabetta, A. De Lucia
29th IEEE/ACM International Conference on Program Comprehension (ICPC 2021)
Early Research Achievement Track, Virtual (originally Madrid, Spain), 2021, 5 pages, 396-400

[M5] THE MAKING OF ACCESSIBLE ANDROID APPLICATIONS: AN EMPIRICAL STUDY ON THE STATE OF THE PRACTICE

M. Di Gregorio, D. Di Nucci, F. Palomba, G. Vitiello
36th IEEE International Conference on Software Maintenance and Evolution (ICSME 2020)
Registered Reports Track, Virtual (originally Melbourne, Australia), 2020, 5 pages, 857-861

[M4] COUNTERTERRORISM FOR CYBER-PHYSICAL SPACES: A COMPUTER VISION APPROACH

G. Cascavilla, J. Slabber, F. Palomba, D. Di Nucci, D. A. Tamburri, W.J. van den Heuvel
International Conference on Advanced Visual Interfaces (AVI 2020)
Short Paper, Ischia, Italy, 2020, 5 pages, 1-5

[M3] QUALITY MANAGEMENT OF INFRASTRUCTURE CODE IN SERVERLESS COMPUTING: THE RADON APPROACH

S. Dalla Palma, M. Garriga, D. Di Nucci, D. A. Tamburri, W.J. van den Heuvel
8th European Conference On Service-Oriented And Cloud Computing (ESOCC 2020)
EU Projects Track, Virtual (originally Heraklion, Greece), 2020, 5 pages, to appear

[M2] MINING PATTERNS IN SOURCE CODE USING TREE MINING ALGORITHMS

H. Son Pham, S. Nijssen, K. Mens, D. Di Nucci, T. Molderez, C. De Roover, J. Fabry, V. Zaytsev.
22nd International Conference on Discovery Science (DS 2019)
Short Paper, Split, Croatia, 2019, 10 pages, 471-480

[M1] METHODS AND TOOLS FOR FOCUSING AND PRIORITIZING THE TESTING EFFORT

D. Di Nucci
34th IEEE International Conference on Software Maintenance and Evolution (ICSME 2018)
Doctoral Symposium Track, Madrid, Spain, 2018, 5 pages, 722-726

PUBLISHED WORKSHOP PAPERS

[W10] TOWARDS QUANTUM-ALGORITHMS-AS-A-SERVICE

M. De Stefano, D. Di Nucci, F. Palomba, D. Taibi, A. De Lucia
1st International Workshop on Quantum Programming for Software Engineering (QP4SE 2022)
Singapore, 2022, 4 pages, to appear.

[W9] DEEPIAC: DEEP LEARNING-BASED LINGUISTIC ANTI-PATTERN DETECTION FOR IAC

N. Borovits, I. Kumara, P. Krishnan, S. Dalla Palma, D. Di Nucci, F. Palomba, D. A. Tamburri, W.-J. van den Heuvel
4th ACM SigSoft International Workshop on Machine Learning Techniques for Software Quality Evaluation (MaLTaSQuE 2020)
Virtual (originally Sacramento, USA), 2020, 6 pages, 7-12

[W8] SINGLING THE ODD ONES OUT: A NOVELTY DETECTION APPROACH TO FIND DEFECTS IN INFRASTRUCTURE-AS-CODE

S. Dalla Palma, M. Mohammadi, D. Di Nucci, D. A. Tamburri
4th ACM SigSoft International Workshop on Machine Learning Techniques for Software Quality Evaluation (MaLTaSQuE 2020)
Virtual (originally Sacramento, USA), 2020, 6 pages, 31-36.

[W7] ON THE ROLE OF DATA BALANCING FOR MACHINE LEARNING-BASED CODE SMELL DETECTION

F. Pecorelli, D. Di Nucci, C. De Roover, A. De Lucia
3rd ACM SigSoft International Workshop on Machine Learning Techniques for Software Quality Evaluation (MaLTaSQuE 2019)
Tallinn, Estonia, 2019, 6 pages, 19-24

[W6] A LANGUAGE-PARAMETRIC MODULAR FRAMEWORK FOR MINING IDIOMATIC CODE PATTERNS

D. Di Nucci, H. Son Pham, J. Fabry, C. De Roover, K. Mens, T. Molderez, S. Nijssen and V. Zaytsev
In Proceedings of the 12th Seminar Series on Advanced Techniques & Tools for Software Evolution (SATTOSSE 2019)
Bolzano, Italy, 2019

[W5] MINING EXTENSION POINT PATTERNS IN SCALA

Y. Pacheco, J. De Bleser, T. Molderez, D. Di Nucci, W. De Meuter, C. De Roover
17th Belgium-Netherlands Software Evolution Workshop (BENEVOL 2018)
Delft, The Netherlands, 2018, 5 pages, 16-20

[W4] OMNISCIENT DEVOPS ANALYTICS

D. Tamburri, F. Palomba, D. Di Nucci, L. Di Giacomo
1st International Workshop on Software Engineering Aspects of Continuous Development and New Paradigms of Software
Production and Deployment (DEVOPS 2018)
Chateau de Villebrumier, France, 2018, 12 pages, 48-59

[W3] EVALUATING THE ADAPTIVE SELECTION OF CLASSIFIERS FOR CROSS-PROJECT BUG PREDICTION

D. Di Nucci, F. Palomba, A. De Lucia
6th International Workshop on Realizing Artificial Intelligence Synergies in Software Engineering (RAISE 2018)
Gothenburg, Sweden, 2018, 7 pages, 48-54

[W2] THE ROLE OF META-LEARNERS IN THE ADAPTIVE SELECTION OF CLASSIFIERS

D. Di Nucci, A. De Lucia
2nd Workshop on Machine Learning Techniques for Software Quality Evaluation (MaLTaSQuE 2018)
Campobasso, Italy, 2018, 6 pages, 7-12

[W1] ON THE DIFFUSION OF TEST SMELLS IN AUTOMATICALLY GENERATED TEST CODE: AN EMPIRICAL STUDY

F. Palomba, D. Di Nucci, A. Panichella, R. Oliveto, A. De Lucia
9th International Workshop on Search-Based Software Testing (SBST 2016)
Austin, TX, United States, 2016, 10 pages, 5-14

PROFESSIONAL SERVICES TO THE SCIENTIFIC COMMUNITY

EDITORIAL BOARD MEMBER OF INTERNATIONAL JOURNALS AND BLOG

05/2021 - CURRENT	Elsevier Science of Computer Programming (SCICO)
03/2021 - CURRENT	Elsevier Journal of Systems and Software (JSS)
05/2020 - CURRENT	IEEE Software Initiatives Team
01/2019 - CURRENT	IEEE Software Blog
09/2020	Guest Editor for Elsevier Science of Computer Programming (SCICO) for the Special Issue on "Software Health of Software Ecosystems"

ORGANIZATION OF SCIENTIFIC EVENTS

2023	PROGRAM CHAIR 49 th Euromicro Conference on Software Engineering and Advanced Applications (Euromicro SEAA 2023)
2021	CO-ORGANIZER 20 th Belgium-Netherlands Software Evolution Workshop (BENEVOL) Virtual (originally 's-Hertogenbosch, The Netherlands) TOOL DEMO CO-CHAIR 29 th IEEE/ACM International Conference on Program Comprehension (ICPC) Virtual (originally Madrid, Spain)
2020	CO-ORGANIZER 3 rd International Workshop on Software Health (SoHeal) Virtual (originally Seoul, South Korea) PUBLICITY CO-CHAIR 28 th IEEE/ACM International Conference on Program Comprehension (ICPC) Virtual (originally Seoul, South Korea)
2019	CO-ORGANIZER 18 th Belgium-Netherlands Software Evolution Workshop (BENEVOL) Brussels, Belgium
2017	SCIENTIFIC SECRETARIAT 13 th International Summer School on Software Engineering (ISSSE) University of Salerno, Italy
2016	SCIENTIFIC SECRETARIAT 12 th International Summer School on Software Engineering (ISSSE) University of Salerno, Italy

PROGRAM COMMITTEE MEMBER OF INTERNATIONAL CONFERENCES

2023	45 th IEEE/ACM International Conference on Software Engineering (ICSE) Software Engineering in Practice Track, Artifact Evaluation Track, Poster Track 31 st International Conference on Program Comprehension (ICPC) Research Track
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	20 th IEEE/ACM International Conference on Mining Software Repositories (MSR) Technical Papers Track
	30 th IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER) Research Track
2022	22 nd IEEE International Working Conference on Source Code Analysis and Manipulation (SCAM) Research Track, Artifact Evaluation Track
	38 th IEEE International Conference on Software Maintenance and Evolution (ICSME) Tool Demo Track, Artifact Evaluation Track
	44 th IEEE/ACM International Conference on Software Engineering (ICSE) Student Research Competition Track
	30 th International Conference on Program Comprehension (ICPC) Research Track
	9 th IEEE/ACM International Conference on Mobile Software Engineering and Systems (MOBILESoft) Technical Papers Track
	19 th IEEE/ACM International Conference on Mining Software Repositories (MSR) Technical Papers Track, Registered Report Track
	9 th European Conference on Service-Oriented and Cloud Computing (ESOCC) Project Track
	29 th IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER) Research Track
2021	21 st IEEE International Working Conference on Source Code Analysis and Manipulation (SCAM) Research Track, Artifact Evaluation Track
	37 th IEEE International Conference on Software Maintenance and Evolution (ICSME) Tool Demo Track, Artifact Evaluation Track
	8 th IEEE/ACM International Conference on Mobile Software Engineering and Systems (MOBILESoft) Technical Papers Track
	28 th IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER) Research Track, Reproducibility Studies and Negative Results Track, Tool Demo Track
2020	20 th IEEE International Working Conference on Source Code Analysis and Manipulation (SCAM) New Ideas and Emerging Results Track
	28 th ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE) Tool Demo Track
	35 th IEEE/ACM International Conference on Automated Software Engineering (ASE) Late Breaking Results Track
	46 th Euromicro Conference on Software Engineering and Advanced Applications (SEAA) Journal First Track
	28 th International Conference on Program Comprehension (ICPC) Research Track

27th IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER)
Research Track, Journal First Track, Tool Demo Track

2019 35th IEEE International Conference on Software Maintenance and Evolution (ICSME)
Tool Demo Track

27th ACM Joint European Software Engineering Conference and Symposium on the Foundations of
Software Engineering (ESEC/FSE)
Artifact Evaluation Track

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

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

PROGRAM COMMITTEE MEMBER OF INTERNATIONAL WORKSHOPS

2023 2nd International Workshop on the Foundations of Infrastructure Specification and Testing (FIST)

2022 6th International Workshop on Machine Learning Techniques for Software Quality Evaluation (MaLTeSQuE)

1st International Workshop on Quantum Programming for Software Engineering (QP4SE)

1st International Workshop on the Foundations of Infrastructure Specification and Testing (FIST)

2021 5th International Workshop on Machine Learning Techniques for Software Quality Evaluation (MaLTeSQuE)

4th International Workshop on Software Health (SoHeal)

2020 19th Belgium-Netherlands Software Evolution Workshop (BENEVOL)

4th International Workshop on Machine Learning Techniques for Software Quality Evaluation (MaLTeSQuE)

2019 2nd International Workshop on Cloud-Native Applications Design and Experience (CNAX)

3rd International 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)

REVIEWER FOR INTERNATIONAL JOURNALS AND CONFERENCES

**INTERNATIONAL
JOURNALS** Transactions on Software Engineering - IEEE
Transactions on Software Engineering and Methodology - ACM
IEEE Software - IEEE
Journal of Systems and Software - Elsevier
Empirical Software Engineering - Springer
Journal of Software: Evolution and Process - Wiley
Information and Software Technology - Elsevier
Science of Computer Programming - Elsevier
IEEE Access - IEEE
IET Software - Institution of Engineering and Technology

INTERNATIONAL CONFERENCES

IEEE International Conference on Software Maintenance and Evolution: 2022, 2020, 2019, 2018, 2016 (New Ideas and Emerging Results Track)
Innovations in Software Engineering Conference: 2022
IEEE International Conference on Program Comprehension: 2021, 2019, 2016
International Conference on Evaluation and Assessment in Software Engineering: 2020
International Conference on Mining Software Repositories: 2019
IEEE International Conference on Software Analysis, Evolution, and Reengineering: 2018, 2017
International Conference on Business Information Systems: 2016, 2015
International Conference on Distributed Multimedia Systems: 2016, 2015
International Conference on Enterprise Information Systems: 2017, 2016, 2015

INVITED TALKS

2022

[T11] MACHINE LEARNING FOR SOFTWARE ENGINEERING: THE NEW GOLD RUSH
Smart Services and Data-driven Societies Summit, University of Molise, Termoli, July 25th, 2022

2021

[T10] CODE SMELL DETECTION: THE ECSTASY OF MACHINE LEARNING
Utrecht University, Utrecht, October 6th, 2021

[T9] MACHINE LEARNING FOR SOFTWARE ENGINEERING: THE GOOD, THE BAD, AND THE UGLY
University of Milano Bicocca, Virtual, July 7th, 2021

[T8] IMPROVING ENERGY EFFICIENCY OF MOBILE APPLICATIONS IN THE INTERNET OF THINGS
Summer School on IoT, University of Salerno, Virtual, April 9th, 2021

2020

[T7] MACHINE LEARNING FOR SOFTWARE ENGINEERING: THE GOOD, THE BAD, AND THE UGLY
Eindhoven University of Technology, Virtual, December 10th, 2020

[T6] IMPROVING ENERGY EFFICIENCY OF MOBILE APPLICATIONS IN THE INTERNET OF THINGS
Summer School on IoT, University of Salerno, Virtual, June 3rd, 2020

[T5] DEFECT PREDICTION: USING MACHINE LEARNING FOR FOCUSING THE TESTING EFFORT
University of Salerno, Virtual, March 25th, 2020

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

MEMBERSHIPS

04/2021 - CURRENT

MEMBER-AT-LARGE OF THE IEEE CONFERENCE ACTIVITIES COMMITTEE (CAC)

11/2020 - CURRENT

CO-LEADER OF THE OASIS TOSCA EMERGING COMPUTE PLATFORMS AD-HOC (TOSCA-ECAH)

01/2020 - CURRENT

MEMBER OF THE OASIS TOSCA TECHNICAL COMMITTEE

AWARDS

2022	BEST REVIEWER AWARD 2021 Journal of Systems and Software (JSS), Elsevier
2021	DISTINGUISHED REVIEWER AWARD 2020 Transactions on Software Engineering and Methodologies (TOSEM), ACM
	BEST REVIEWER AWARD 2020 Journal of Systems and Software (JSS), Elsevier
2020	BEST REVIEWER AWARD 2019 Journal of Systems and Software (JSS), Elsevier
2017	NSF TRAVEL SUPPORT Symposium on Search-Based Software Engineering (SSBSE), Raleigh, NC, United States
2015	ACM SIGSOFT STUDENT TRAVEL GRANT 37 th ACM/IEEE International Conference on Software Engineering (ICSE), Florence, Italy

COMMITTEE MEMBER OF PH.D. JURIES

2020	INVESTIGATING PERFORMANCE ISSUES IN MOBILE APPS Teerath Das, Gran Sasso Science Institute, Italy advised by Prof. Massimiliano Di Penta and Dr. Ivano Malavolta
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COMMITTEE MEMBER OF PDENG JURIES

2021	PREDICTING SALES QUANTITY FOR NEWLY PUBLISHED BOOKS IN BRUNA STORES Kristof Menyhert, Jheronimus Academy of Data Science, The Netherlands
	CUSTOMER ANALYSIS AND A DESIGN OF A CROSS-DOMAIN PERSONALIZED RECOMMENDER SYSTEM FOR AUDAX GROEP Bethany Orense, Jheronimus Academy of Data Science, The Netherlands

Fisciano (SA), November 1st, 2022