

EDUCATION

University of L'Aquila, L'Aquila, Italy

May 6, 2019

PhD in Information and Communication Technology

Thesis advisors : Vittorio Cortellessa

Thesis title : “Automated tool-supported Software Refactoring driven by Performance”

University of L'Aquila, L'Aquila, Italy

October 23, 2015

Master Degree in Computer Science

Thesis advisors : Vittorio Cortellessa

Thesis title : “Un approccio unificante al refactoring di modelli UML-MARTE basato sulle prestazioni software”

Mark : 110/110 cum laude

University of L'Aquila, L'Aquila, Italy

March 27, 2013

Bachelor Degree in Computer Science

Thesis advisors : Serafino Cicerone

Thesis title : “Realizzazione mediante beContent di ResearchWare, un'applicazione web a supporto di un dipartimento universitario”

Mark : 102/110

PROFESSIONAL EXPERIENCE

University of L'Aquila

since March 2023

Assistant Professor (RTDa)

L'Aquila, Italy

Scientific Supervisor : Vittorio Cortellessa and Antiniscia Di Marco

Main activities: The research activity will address the synergistic adoption of approaches and methodologies for continuous engineering of services on complex hardware/software platforms in support of open science research driven by quality aspects (e.g., performance, reliability, and availability) that also ensure appropriate use of energy in complex application contexts (such as disaster response and recovery). It is intended to study software and system quality aspects, where the heterogeneity of the underlying platform also requires the use of model-based techniques for continuous assessment and improvement of system qualities and judicious use of resources including energy. Specifically, we intend to advance the state of the art in this context in two main research directions concerning (i) the support that modeling can give to the detection of quality problems (performance, availability, reliability, and energy consumption), (ii) the application of heuristic-based techniques (e.g, genetic evolution) to quality analysis, with the aim of providing solutions that are tolerant to changes in the system, while not neglecting aspects of optimization of physical resources that, in turn, impact energy use, (iii) experimentation with benchmarking and performance testing techniques geared toward the identification of performance problems of running systems.

Centre of excellence EMERGE

November 2019 - February 2023

Postdoctoral researcher

L'Aquila, Italy

Scientific Supervisor : Vittorio Cortellessa

Main activities: The research work involved the study of methodologies for performance engineering of software/hardware systems, with a focus on the specific issues present in the context of autonomous vehicles.

In particular, the research focused on techniques that aim to introduce automation in the process of generating and analyzing performance models from software/hardware artifacts (forward path), but especially in the process of interpreting results and generating feedback useful to designers to avoid or remove design errors that induce degradation in system performance (backward path). Research has focused on the implementation of innovative techniques that capture the peculiarities of the autonomous vehicle domain, such as system heterogeneity and/or uncertainty due to the execution and interaction environment, which are not always considered by state-of-the-art techniques.

Centre of excellence DEWS

December 2018 - November 2020

Postdoctoral researcher

L'Aquila, Italy

Scientific Supervisor : Vittorio Cortellessa

Main activities: The research work consisted of investigating techniques and methodologies that, at the model and/or code level, enable software refactorings guided by the results of evaluating nonfunctional properties such as reliability or performance. Special emphasis has been given to the implementation of meta-heuristics (e.g., multi-objective optimization based on genetic approaches) that allow inspection of the refactoring solution space for the purpose of optimizing a function dependent on nonfunctional properties.

University College Dublin

October 2017 - May 2018 (5 months and 3 days)

Research Visiting

Dublin, Ireland

Scientific Supervisor : Vittorio Cortellessa and Mel O Cinneide

Title: The research program will concern two main directions: i) it will be investigated the possibility to combine, in the context of multiobjective optimization aimed at software refactoring, functional and non-functional objectives, where the latter will be supported by performance antipattern detection and solution; ii) and it will be also investigated the porting of developed techniques for model-based performance antipattern detection and solution at the level of code.

University of L'Aquila

July 2013 - June 2014 (6 months)

Scholarship

L'Aquila, Italy

Scientific Supervisor : Alfonso Pierantonio

Title: Refactoring the beContent platform

COMMITTEE AND REVIEWING ACTIVITY

Editorial Board:

- Guest Editor for the Special Issue on Quality in Software Architecture on Journal of Systems and Software

Organizing committee:

- Co-Chair of the International Workshop on Quality in Software Architecture (QUALIFIER) at ECSA 2024
- Co-Chair of the International Workshop on Quality in Software Architecture (QUALIFIER) at ICSA 2024
- Co-Chair of the International Workshop on Sustainable Service-Oriented Computing: Addressing Environmental, Social, and Economic Dimensions (SSCOPE) at ICSOC 2023
- Co-Chair of the International Workshop on Quality in Software Architecture (QUALIFIER) at ECSA 2023
- Co-Chair of the Posters and Demos Chair track of the International Conference on Performance Engineering (ICPE 2023)

- Co-Chair of the International Workshop on Challenges in Performance Methods for Software Development (WOSP-C) at ICPE 2023
- Co-Chair of the International Workshop on Challenges in Performance Methods for Software Development (WOSP-C) at ICPE 2022
- Co-Chair Primo Working Day del System and Service Quality CINI Working Group 2022
- Publication Chair International Conference on Performance Engineering (ICPE 2021)
- Web Chair International Conference on Performance Engineering (ICPE 2017)
- Co-Chair Primo evento CINI University Challenge 2017

Committee member:

- International Conference on Evaluation and Assessment in Software Engineering (EASE 2024)
- IEEE International Conference on Software Architecture (ICSA 2024)
- IEEE International Conference on Software Analysis, Evolution and Reengineering - Research Track (SANER 2024)
- IEEE International Conference on Software Analysis, Evolution and Reengineering - Short Paper Track (SANER 2024)
- IEEE International Conference on Software Analysis, Evolution and Reengineering - Tool paper Track (SANER 2024)
- ACM/SPEC International Conference on Performance Engineering (ICPE 2024)
- ACM/SPEC International Conference on Performance Engineering - Emerging Research Track (ICPE 2024)
- Workshop on Artificial Intelligence for Performance Modeling, Prediction, and Control (AiPerf 2024)
- Workshop on Load Testing and Benchmarking of Software Systems (LTB 2024)
- Artifact Evaluation Track of International Conference on Software Engineering (ICSE 2024)
- European Conference on Software Architecture (ECSA 2023)
- IEEE International Conference on Software Architecture (ICSA 2023)
- Artifact Evaluation of International 53rd Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN 2023)
- Data Challenge Track of International Conference on Software Performance Engineering (ICPE 2023)
- Junior Program of International Conference on Mining Software Repositories (MSR 2023)
- Workshop on Artificial Intelligence for Performance Modeling, Prediction, and Control (AiPerf 2023)
- Workshop on Load Testing and Benchmarking of Software Systems (LTB 2023)
- International Workshop on Model-Driven Engineering for Software Architecture (MDE4SA 2023)
- Work-in-Progress & Vision Committee di International Workshop on Modeling Language Engineering (ICPE 2022)
- Program Committee di International Workshop on Modeling Language Engineering (MLE 2022)
- Artifact Evaluation track of the Automated Software Engineering (ASE 2022)
- Automated and verifiable Software sYstem DEvelopment (ASYDE 2022)
- Artifact Evaluation track of the Automated Software Engineering (ASE 2021)

- Artifact Evaluation of ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE 2021)
- Shadow Program of International Conference on Mining Software Repositories (MSR 2021)
- International Workshop on Modeling Language Engineering (MLE 2021)
- Demo Track of International Conference on Pervasive Computing and Communications (PerCom 2021)
- Artifact Evaluation of International Conference on Performance Engineering (ICPE 2020)
- Demo Track of International Conference on Pervasive Computing and Communications (PerCom 2020)

Reviewer for the journals:

- Automated Software Journal (ASEJ)
- Software Quality Journal (SQJ)
- Software: Practice and Experience (SPE)
- Journal of Information and Software Technology (InfSoft)
- Journal of Systems and Software (JSS)
- Transaction on Software Engineering (TSE)
- Empirical Software Engineering (EMSE)
- Scientific Reports (SRPP)
- SN Computer Science (SNCS)
- Journal of Computer Languages (COLA)
- Transaction on Reliability (TREL)
- Science of Computer Programming (SCICO)

INVITED TALKS

University of L'Aquila, invited by Guido Proietti

December 20, 2023

Talk title : Advancing Software Quality through Many-Objective Optimization and Model-Driven Performance Engineering

University of Hamburg, invited by André van Hoorn, Virtual

April 19, 2022

Talk title : Quality-centric Continuous Software Engineering

SPEC DevOps Research Group, Virtual

October 22, 2021

Talk title : On the impact of performance antipatterns in multi-objective software model refactoring

SPEC DevOps Research Group, Virtual

June 9, 2020

Talk title : Run-time/Design-time Interactions for Performance Assessment optimization

AWARDS

Best Paper Award

March 15, 2024

International Workshop on Negative Results in Pervasive Computing (PERFAIL 2024)

Best Paper Award

June 23, 2023

European Workshop on Performance Engineering (EPEW) 2023

Best Poster Award

March 16, 2023

International Conference on Software Architecture (ICSA) 2023

PARTICIPATION TO RESEARCH PROJECTS

RECHARGE

2023 – 2025

Title: RECHARGE: monitoRing, tEsting, and CHaracterization of performAnce Regressions
Funded by: Italian Government (Ministero dell'Università e della Ricerca, Bando PRIN 2022 PNRR: PE6 - Computer Science and Informatics), Decreto Direttoriale n. 1205 del 28-7-2023.
Objectives: To create a framework that leverages static analysis and search-based algorithms for automating performance testing in CI/CD pipelines.
Website: <https://spencerlabaq.github.io/projects/2023-recharge/>

SoBigData.it

2020 – 2023

Title: SoBigData.it
Funded by: European Union's Horizon 2020 research and innovation programme under grant agreements No. 654024, 871042, 101079043 and National Recovery and Resilience Plan - Prot. IR0000013 – Avviso n. 3264 del 28/12/2021."
Objectives: Task leader of "Activity 2.12: Research contribution to Virtual Laboratories part of Working Package 2 - Virtual Research Laboratories and concurrent to the achievement of Objective 2.2 - Virtual Research Laboratories dissemination".
Contribution: Definition and subsequent validation of non-functional requirements (implementation goal 14) of the entire EMERGE system.
Website: <http://sobigdata.eu/>

Emerge - Navigazione – National project

2019 – 2023

Title: EMERGE (Veicoli Commerciali Connessi & Tecnologie Emergenti per operatività di "tutti i giorni" e di "ausilio nelle emergenze) – NAVIGAZIONE
Funded by: Comitato Interministeriale per la Pianificazione Economica (CIPE) con delibera n.70/2017 nel quadro degli interventi del programma di sviluppo del cratere sismico dell'Aquila.
Objectives: Development of enabling technologies for connected/autonomous cars with stringent safety requirements.
Contribution: Definition and subsequent validation of non-functional requirements (implementation goal 14) of the entire EMERGE system.
Website: http://exemerge.disim.univaq.it/?page_id=342

MegaM@Rt2 – European project

2017 – 2020

Title: MegaModelling at Runtime – scalable model-based framework for continuous development and runtime validation of complex systems
Funded by: Electronic Component Systems for European Leadership Joint Undertaking (ECSEL-JU) under grant agreement No 737494.
Objectives: To create a framework incorporating methods and tools for continuous development and validation leveraging the advantages in scalable model-based methods to provide benefits in significantly improved productivity, quality and predictability of large and complex industrial systems.
Contribution: Definition of the design and runtime methodologies of the framework, definition of approaches for model to model traceability, and for the evaluation of performance and dependability properties.
Website: <https://megamart2-ecsel.eu>

PARTICIPATION TO PROJECT PROPOSALS

RECHARGE – Progetto di interesse Nazionale (PRIN)*2023 – 2025*

Title: RECHARGE: monitoRing, tEsting, and CHaracterization of performAnce Regressions

Funded by: Italian Government (Ministero dell'Università e della Ricerca, Bando PRIN 2022 PNRR: PE6 - Computer Science and Informatics), Decreto Direttoriale n. 1205 del 28-7-2023.

Objectives: To create a framework that leverages static analysis and search-based algorithms for automating performance testing in CI/CD pipelines.

ORGANIZATION OF AND PARTICIPATION TO RESEARCH GROUPS

Member of the DevOps reseach group of the Standard Performance Evaluation Corporation (SPEC)

Composed by both researchers and practioners from the industry. Focusing on performance problems in DevOps.

Member of the SPEC research group on Performance Changepoint Detection

Composed by both researchers and practitioners from the industry. Focusing on changepoint analysis in time series of performance measurements.

Co-organizer of the SPEC research group on Search-based Software Performance Engineering

International research group focusing on the application of search-based optimization techniques to performance problems in software engineering.

Member of the reseach group on Performance Regression Testing , composed by:

- Charles University
- University of L'Aquila
- University of Salerno
- University of Molise

Member of the reseach group on Performance and Software Refactoring , composed by:

- Charles University
- University of L'Aquila
- University of Molise
- Università della Svizzera Italiana

Member of the reseach group on Performance Change Detection , composed by:

- University of L'Aquila
- Concordia University

Member of the reseach group on Advanced Driver Assistance Systems (ADAS) , composed by:

- Università degli Studi di Napoli Federico II
- Università degli Studi di Salerno
- Università degli studi dell'Aquila

Node leader in the CINI Systems and Services Quality Working Group.

The Working Group aims to make available its cultural, scientific heritage and established experience in developing methodologies and approaches to maintain the required levels of quality of IT services.

Member of the Quantitative Informatics (InfQ) research group

the research group currently consists of 12 research groups distributed throughout the country and corresponding to 12 universities.

Member of the Software Performance Engineering Laboratory (SPENCER) research group

The Software PERformaNCE laboRatory (SPENCER) Lab aims to study techniques and methodologies for analyzing and optimizing the performance of software systems, including in combination with other software quality attributes. The approaches studied address different phases of the software development cycle (from the design phase to the release phase).

TEACHING

Agile programming methodologies

2023-2024

48 hours of teaching.

Topics: Software Design, SCRUM

Agile programming methodologies

2022-2023

48 hours of teaching.

Topics: Software Design, SCRUM

Agile programming methodologies

2021-2022

36 hours of teaching.

Topics: Software Design, SCRUM

TEACHING SUPPORT

Expert of the subject

2019-2023

Software Quality Engineering

Topics: Model-Driven Engineering and Performance Modelling laboratories.

Expert of the subject

2019-2023

Advanced Verification and Validation

PHD STUDENTS CO-SUPERVISION

Muhammad Waheed Kahn

2023-present

PhD Student at University of l'Aquila, XXXIX cycle, Italy.

Thesis title: TBD

Main Advisors : Daniele Di Pompeo

Co-Advisors : Vittorio Cortellessa, Michele Tucci

Idrees Ahmad

2023-present

PhD Student at University of l'Aquila, XXXIX cycle, Italy

Thesis title: TBD

Main Advisors : Vittorio Cortellessa

Co-Advisors : Daniele Di Pompeo, Michele Tucci

Payel Patra

2023-present

PhD Student at University of l'Aquila, XXXVIII cycle, Italy

Thesis title: "SoBigData-1 Engineering software microservices for open science satisfying the FAIR principles"

Main Advisors : Antinisca Di Marco

Co-Advisors : Daniele Di Pompeo

THESIS CO-SUPERVISION / REVIEWING

Vincenzo Marono

03/2024

Co-supervision with : Vittorio Cortellessa

BSc Thesis: Comparative study of the performance of javascript frameworks in the context of interactive live streaming

University of L'Aquila

Agostino D'Agostino

2024

Co-supervision with : Michele Tucci

BSc Thesis: TBD

University of L'Aquila

Giacomo Sfratato

2024

Co-supervision with : Michele Tucci

MD Thesis: TBD

University of L'Aquila

Muhammad Usama Bin Abad

2024

Co-supervision with : Michele Tucci

MD Thesis: TBD

University of L'Aquila

Alessandro Sablone

2023

Co-supervision with : Michele Tucci

BSc Thesis: Design and Implementation of an Automatic Refactoring Library of Java projects

University of L'Aquila

Alberto Isotti

2023

Co-supervision with : Vittorio Cortellessa

BSc Thesis: Design and implementation of a user interface for a connected vehicle on-board system

University of L'Aquila

Michele Intrevado

2022

Co-supervision with : Vittorio Cortellessa

BSc Thesis: Java Unit Test extension for performance measures

University of L'Aquila

Enrico Simone Adamelli

2021

BSc Thesis: Performance Unit Testing on open source applications

University of L'Aquila

Vincenzo De Petris

2021

Co-supervision with : Vittorio Cortellessa

BSc Thesis: Performance Unit Testing on open source applications

University of L'Aquila

Natan Cieplinski

2020

Co-supervision with : Vittorio Cortellessa

BSc Thesis: Performance analysis of J2EE applications using SPEC benchmarks

University of L'Aquila

Marisa Fallone

2018

Co-supervision with : Serafino Cicerone

MD Thesis: Design, implementation and performance analysis of a microservices-based web application

University of L'Aquila

Stefano Di Francesco

2017

Co-supervision with : Vittorio Cortellessa

BSc Thesis: Reverse engineering of a web application in UML+MARTE and model integration with performance monitoring results

University of L'Aquila

PARTICIPATION TO PHD SCHOOLS

SFM-16:QUANTICOL, Bertinoro, Italy

2016

16th International School on Formal Methods for the Design of Computer, Communication and Software Systems: Quantitative Evaluation of Collective Adaptive Systems, Bertinoro, Italy

Courses : Self-Organization in Distributed Computing Systems, Formal specification and Analysis of Robust Adaptive Distributed Cyber-Physical Systems, Dependability of Adaptable and Evolvable Distributed Systems, Mean-Field Limits: Beyond Ordinary Differential Equations, Modeling and Analysis of Collective Adaptive Systems with CARMA and its Tools, Spatial Representations and Analysis Techniques, Spatial Logic and Spatial Model Checking, Spatio-Temporal Model Checking, Quantitative Abstractions for Collective Adaptive Systems, Aggregate Programming.

ATTENDED CONFERENCES

- International Conference on Software Architecture (ICSA 2024), Hyderabad, India
- International Workshop on Green and Sustainable Software (Green'24 2023) - **Speaker**
- Conference on System and Service Quality (QualITA 2023) - **Speaker**
- European Performance Engineering Workshop (EPEW 2023)
- International Conference on Performance Engineering (ICPE 2023), Coimbra, Portugal
- International Conference on Software Architecture (ICSA 2023), L'Aquila, Italy
- International Conference on Performance Engineering (ICPE 2022), Virtual
- Euromicro Conference Series on Software Engineering and Advanced Applications (SEAA 2022), Gran Canaria, Spain - **Speaker**
- International Symposium on Computer Performance, Modeling, Measurements and Evaluation (IFIP 2021), Virtual
- Euromicro Conference Series on Software Engineering and Advanced Applications (SEAA 2021), Virtual - **Speaker**

- International Conference on Performance Engineering (ICPE 2021), Virtual
- International Conference on Performance Engineering (ICPE 2020), Virtual
- International Symposium on Computer Performance, Modeling, Measurements and Evaluation (Performance 2020), Virtual
- European Conference on Software Architecture (ECSA 2020), Virtual
- International Conference on Software Architecture (ICSA 2019), Hamburg, Germany
- IEEE International Conference on Software Analysis, Evolution and Reengineering (SANER 2019), Hangzhou, China - **Speaker**
- International Workshop on Refactoring (IWor 2018), Montpellier, France - **Speaker**
- International Workshop on Energy-aware Simulation (ENERGY-SIM 2018), Berlin, Germany - **Speaker**
- International Conference on Performance Engineering (ICPE 2017), L'Aquila, Italy - **Speaker**
- International Workshop on Software Refactoring (IWor 2016), Singapore - **Speaker**

PUBLICATIONS

Journal articles

2024

Eramo, Romina, Michele Tucci, Daniele Di Pompeo, Vittorio Cortellessa, Antiniscia Di Marco, and Davide Taibi. "Architectural Support for Software Performance in Continuous Software Engineering: A Systematic Mapping Study." *Journal of Systems and Software (JSS)*, 207, art. no. 111833 (2024)

2023

Luca Traini, Vittorio Cortellessa, Daniele Di Pompeo, and Michele Tucci. "Towards effective assessment of steady state performance in Java software: Are we there yet?" *Empirical Software Engineering (EMSE)*, 28(1), 1-57.

Cortellessa, Vittorio, Daniele Di Pompeo, Vincenzo Stoico, and Michele Tucci. "Many-objective optimization of non-functional attributes based on refactoring of software models." *Information and Software Technology* 157 (2023): 107159.

2022

Traini, Luca, Daniele Di Pompeo, Michele Tucci, Bin Lin, Simone Scalabrino, Gabriele Bavota, Michele Lanza, Rocco Oliveto, and Vittorio Cortellessa. "How Software Refactoring Impacts Execution Time." *ACM Trans. Softw. Eng. Methodol (TOSEM)*. 31, 2, Article 25 (April 2022), 23 pages.

Cortellessa, Vittorio, Daniele Di Pompeo, Romina Eramo, and Michele Tucci. "A model-driven approach for continuous performance engineering in microservice-based systems." *Journal of Systems and Software (JSS)* Volume 183, 2022, pp. 111084.

2021

Vittorio Cortellessa and Daniele Di Pompeo. "Analyzing the sensitivity of multi-objective software architecture refactoring to configuration characteristics". *Information and Software Technology (INFSOFT)* Volume 135, 2021, pp. 106568.

2018

Arcelli, Davide, Vittorio Cortellessa, and Daniele Di Pompeo. "Performance-driven software model refactoring." *Information and Software Technology* Volume 95, 2018, pp. 366-397.

Conference papers

2024

Cortellessa, Vittorio; Di Pompeo, Daniele; Tucci, Michele. Exploring sustainable alternatives for the deployment of microservices architectures in the cloud. (2024) *Proceedings - IEEE International Conference on Software Architecture (ICSA)*, pp. to-appear. IEEE, 2024.

Di Pompeo, Daniele; Tucci, Michele. Harnessing Genetic Improvement for Sustainable Software Architectures. (2024) *Proceedings - IEEE 21st International Conference on Software Architecture Companion, ICSA-C 2023*, pp. to appear. IEEE, 2024.

2023

Cortellessa, Vittorio; Diaz-Pace, J. Andres; Di Pompeo, Daniele; Tucci, Michele. Towards Assessing Spread in Sets of Software Architecture Designs. (2023) *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 14212 LNCS, pp. 133 - 140. https://doi.org/10.1007/978-3-031-42592-9_9

Cortellessa, Vittorio, Daniele Di Pompeo, and Michele Tucci. Performance of Genetic Algorithms in the Context of Software Model Refactoring. In *European Workshop on Performance Engineering*, pp. 234-248. Cham: Springer Nature Switzerland, 2023.

Stoico, Vincenzo, Vittorio Cortellessa, Ivano Malavolta, Daniele Di Pompeo, Luigi Pomante, and Patricia Lago. "An Approach Using Performance Models for Supporting Energy Analysis of Software Systems." In *European Workshop on Performance Engineering*, pp. 249-263. Cham: Springer Nature Switzerland, 2023.

Basciani, Francesco; Di Pompeo, Daniele; Di Rocco, Juri; Pierantonio, Alfonso. A customizable approach to assess software quality through Multi-Criteria Decision Making. (2023) *Proceedings -*

IEEE 20th International Conference on Software Architecture Companion, ICSA-C 2023, pp. 264 - 271. <https://doi.org/10.1109/ICSA-C57050.2023.00063> *arXiv preprint arXiv: 2301.12202*.

Di Pompeo, Daniele, and Michele Tucci. Quality Attributes Optimization of Software Architecture: Research Challenges and Directions. (2023) Proceedings - IEEE 20th International Conference on Software Architecture Companion, ICSA-C 2023, pp. 252 - 255. <https://doi.org/10.1109/ICSA-C57050.2023.00061> *arXiv preprint arXiv: 2301.07516*.

Di Pompeo, Daniele; Tucci, Michele. Multi-objective Software Architecture Refactoring driven by Quality Attributes. (2023) Proceedings - IEEE 20th International Conference on Software Architecture Companion, ICSA-C 2023, pp. 175 - 178. <https://doi.org/10.1109/ICSA-C57050.2023.00046> *arXiv preprint arXiv: 2301.07500* (2023).

2022

Vittorio Cortellessa, Daniele Di Pompeo, Vincenzo Stoico and Michele Tucci. "Software Model Refactoring Driven by Performance Antipattern Detection." SIGMETRICS Perform. Evaluation Rev., 2022, 49(4), pp. 53–58.

Daniele Di Pompeo, and Michele Tucci. "Search Budget in Multi-Objective Refactoring Optimization: a Model-Based Empirical Study." 48th Euromicro Conference on Software Engineering and Advanced Applications (SEAA), pp. (to-appear). IEEE, 2022.

2021

Cortellessa, Vittorio, Daniele Di Pompeo, Vincenzo Stoico, and Michele Tucci. "On the impact of Performance Antipatterns in multi-objective software model refactoring optimization." 47th Euromicro Conference on Software Engineering and Advanced Applications (SEAA), pp. 224-233. IEEE, 2021.

Francesco Basciani, Daniele Di Pompeo, Davide Di Ruscio, Ludovico Iovino and Alfonso Pierantonio. "Integrating semantic reasoning in information loss-based transformation chain rankers". 36th ACM/SIGAPP Symposium on Applied Computing, pp. 1494–1503. ACM, 2021.

2019

Davide Arcelli, Vittorio Cortellessa, Daniele Di Pompeo, Romina Eramo and Michele Tucci. "Exploiting Architecture/Runtime Model-Driven Traceability for Performance Improvement". IEEE International Conference on Software Architecture, ICSA, pp.81–90. IEEE, 2019.

Daniele Di Pompeo, Michele Tucci, Alessandro Celi and Romina Eramo. "A Microservice Reference Case Study for Design-Runtime Interaction in MDE". 2nd International Workshop on Model-Driven Engineering for Design-Runtime Interaction in Complex Systems, pp. 23–32. CEUR-WS.org, 2019.

Davide Arcelli, Vittorio Cortellessa and Daniele Di Pompeo. "Automating Performance Antipattern Detection and Software Refactoring in UML Models". 26th IEEE International Conference on Software Analysis, Evolution and Reengineering, pp. 640–643. SANER. IEEE, 2019.

2018

Davide Arcelli, Vittorio Cortellessa and Daniele Di Pompeo. "A metamodel for the specification and verification of model refactoring actions". 2nd International Workshop on Refactoring, pp. 14–21. ACM, 2018.

Vittorio, Cortellessa, Antinisca, Di Marco, Daniele, Di Pompeo, Francesco, Gallo, Stefano, Pace, Luigi, Pomante and Walter, Tiberti. "Energy-driven reconfiguration of applications for Wireless Sensor Networks." In Proceedings of the 8th ACM/SPEC on International Conference on Performance Engineering Companion, pp. 79–84. ACM, 2018.

Arcelli, Davide, Cortellessa, Vittorio, Mattia, D’Emidio, Daniele and Di Pompeo. "EASIER: an Evolutionary Approach for multi-objective Software architecture Refactoring." In 2018 IEEE International Conference on Software Architecture (ICSA), pp. 105–114. IEEE, 2018.

2017

Di Pompeo, Daniele, Incerto, Emilio, Muttillio, Vittoriano, Pomante, Luigi, Valente, Giacomo. "An Efficient Performance-Driven Approach for HW/SW Co-Design." Proceedings of the 8th ACM/SPEC on International Conference on Performance Engineering. ACM, 2017.

Arcelli, Davide, and Daniele Di Pompeo. "Applying Design Patterns to Remove Software Performance Antipatterns: A Preliminary Approach." *Procedia Computer Science* 109 (2017): 521–528.

2016

Arcelli, Davide, Vittorio Cortellessa, and Daniele Di Pompeo. "Automated translation among EPSILON languages for performance-driven UML software model refactoring." Proceedings of the 1st International Workshop on Software Refactoring. ACM, 2016.

2015

Arcelli, Davide, Vittorio Cortellessa, and Daniele Di Pompeo. "Towards a Unifying Approach for Performance-Driven Software Model Refactoring." *GEMOC+ MPM@ MoDELS*. 2015.

Posters

2023

Di Pompeo, D., and Tucci, M. (2023). Multi-objective Software Architecture Refactoring driven by Quality Attributes. In *IEEE International Conference on Software Architecture, ICSA 2023, L’Aquila, Italy, March 13–17, 2023*.
<https://arxiv.org/abs/2301.07500>

CITATION INDICES

Indices accessed on 17th June 2024

Google Scholar: 271 citations , h-index: 10, i10-index: 13

Scopus: 184 citations , h-index: 10