Michele Tucci

Email : michele.tucci@univaq.it
Scopus
Web of Science
dblp
Google Scholar

EDUCATION

PhD in Information and Communication Technology *May 4, 2021*
University of L'Aquila *L'Aquila, Italy*

Thesis advisors : Romina Eramo, Vittorio Cortellessa
Thesis title : "Advanced model-driven techniques to improve non-functional properties of software systems"
Available online : https://tinyurl.com/365w8p99

Master's Degree in Computer Science *October 21, 2017*
University of L'Aquila *L'Aquila, Italy*

University of L'Aquila
Thesis advisors : Vittorio Cortellessa, Romina Eramo
Thesis title : "Availability-driven refactoring through bidirectional transformations between UML and Petri Nets"
Mark : 110/110 cum laude

Bachelor's Degree in Computer Science *March 27, 2012*
University of L'Aquila *L'Aquila, Italy*

University of L'Aquila
Thesis advisors : Vittorio Cortellessa, Romina Eramo
Thesis title : "Change propagation from performance models to software models through a language for bidirectional transformations"
Mark : 96/110

QUALIFICATIONS

Italian National Scientific Qualification 01/B1 *18 luglio 2025*

Achieved the Italian National Scientific Qualification (Abilitazione Scientifica Nazionale, ASN) as Associate Professor (II Fascia) for the competition sector (Settore Concorsuale):
01/B1 - Informatica (Tornata 2023–2025, Quarto Quadrimestre).

https://asn23.cineca.it/pubblico/miur/esito-abilitato/01%252FB1/2/4

Italian National Scientific Qualification 09/H1 *14 luglio 2025*

Achieved the Italian National Scientific Qualification (Abilitazione Scientifica Nazionale, ASN) as Associate Professor (II Fascia) for the competition sector (Settore Concorsuale):
09/H1 - Sistemi di elaborazione delle informazioni (Tornata 2023–2025, Quarto Quadrimestre).

https://asn23.cineca.it/pubblico/miur/esito-abilitato/09%252FH1/2/4

PROFESSIONAL EXPERIENCE

Assistant Professor (RTDa) *since March 2023*
University of L'Aquila *L'Aquila, Italy*

(Ricercatore universitario a tempo determinato lett. a), tempo pieno,

ex. art. 24, co. 3, Legge 240/2010, per il settore scientifico-disciplinare
INF/01 – Informatica, settore concorsuale 01/B1 – Informatica.)

Main activities: Research on software performance engineering and architectural quality. I focused on search-based and multi-objective optimization of software architectures, particularly for refactoring with respect to non-functional properties. I worked on novel metrics and approaches for assessing architectural quality, a new definition of code coverage for performance testing aligned with modern software engineering practices, and automated detection of relevant performance changes. I also contributed to performance changepoint detection, performance regression testing in CI/CD pipelines, and the optimization of benchmarking and monitoring activities.

Postdoctoral researcher   *October 2021 - February 2023*
Charles University   *Prague, Czech Republic*
Coordinator : Petr Tůma
Main activities: Research on performance testing and measurement. I mainly focused on a novel definition of code coverage for performance testing, one that would be compatible with current goals and practices in software engineering. I also worked on the automated detection of performance changes that are relevant to developers, performance benchmarking for parallelism, automated optimization of software architectures for performance, and software refactoring for non-functional properties.

Infrastructure and backend administrator for web services   *2020 - September 2021*
University of L'Aquila   *L'Aquila, Italy*
Main activities: Responsible for performance, security, and availability of the web services of the University. Administration of the backend from bare metal up to application servers. Design of cloud migration plans.

Researcher on a scholarship   *2016–2017*
University of L'Aquila   *L'Aquila, Italy*
Coordinator : Romina Eramo
Title: Development of a framework for bidirectional model transformations in Model-Driven Engineering
Main activities: development of an Eclipse-based IDE for the Janus Transformation Language (JTL).

Systems administrator   *2010–2019*
University of L'Aquila   *L'Aquila, Italy*
Main activities: Administration, integration and analysis of performance, security and availability of systems on Linux and Windows. Design, installation and administration of a virtual infrastructure based on VMware vSphere, including hypervisors, virtual storage and centralized management. Implementation of backup and disaster recovery policies for virtual machines and specific applications. Design of load balancing and high availability solutions. Implementation of a central monitoring system. The infrastructure hosts more than 300 virtual servers.

Web developer and web services administrator   *June 2006–2009*
University of L'Aquila   *L'Aquila, Italy*
Main activities: Design and development of the web portal of University of L'Aquila using LAMP technology. Design of a web platform for the web sites of departments and excellence centers. Administration of the servers hosting the web services for the University.

COMMITTEE AND REVIEWING ACTIVITY

Editorial boards

– Guest Editor of the special issue on "Quality in Software Architecture" in the Journal of Systems and Software: https://www.sciencedirect.com/special-issue/105R99223BX

– Member of the ACM Transactions on Software Engineering and Methodology (TOSEM) Review Committee of the Editorial Board since November 2025, appointed until December 2027: https://dl.acm.org/journal/tosem/editorial-board

Organizing committees

– Co-Chair of the 1st International Workshop on Green Software Evolution (Greenvolve) at SANER 2026

– Co-Chair of the 3rd International Workshop on Quality in Software Architecture (QUALIFIER) at ECSA 2024

– Demo-Tutorial co-chair of the 3rd Italian Conference on Big Data and Data Science (ITADATA) 2024

– General co-chair of the 3rd Conference on System and Service Quality (QualITA) 2024 – https://qualitawg.github.io/

– Workshops Co-Chair of the International Conference on Performance Engineering (ICPE) 2024

– Co-Chair of the 2nd International Workshop on Quality in Software Architecture (QUALIFIER) at ICSA 2024

– Co-Chair of the 1st International Workshop on Sustainable Service-Oriented Computing: Addressing Environmental, Social, and Economic Dimensions at ICSOC 2023

– Co-Chair of the 1st International Workshop on Quality in Software Architecture (QUALIFIER) at ECSA 2023

– Co-Chair of the Data Challenge track of the International Conference on Performance Engineering (ICPE) 2023

– Co-Chair of the 8th International Workshop on Challenges in Performance Methods for Software Development (WOSP-C) at ICPE 2023

Programme committees

– Euromicro Conference Series on Software Engineering and Advanced Applications (SEAA) 2026 - Software Analytics: Mining Software Open Datasets and Repositories

– International Conference on Software Maintenance and Evolution (ICSME) 2026 - Registered Reports Track

– International Conference on Service-Oriented Computing (ICSOC 2025)

– Software Architecture: Theory, Technology, and Applications (SA-TTA) at SAC 2025

– International Workshop on DevOps for Sustainability (DevOpsSustain) at FSE [2025,2026]

– European Dependable Computing Conference (EDCC) [2025,2026]

– Tools and Demonstrations track of the International Conference on Model Driven Engineering Languages and Systems (MODELS) 2024

– Software Engineering Doctoral Symposium (SEDES) at QUATIC 2024

– Demonstration track and Artifact Evaluation track of the International Conference on Software Architecture (ICSA) 2024

- Artifact Evaluation Committee of the International Conference on Software Engineering (ICSE) 2024
- Research track and Tools Demo track of the International Conference on Software Analysis, Evolution and Reengineering (SANER) 2024
- International Workshop on Load Testing and Benchmarking of Software Systems (LTB) at ICPE [2023,2025]
- Artifact Evaluation Committee of the International Conference on Fundamental Approaches to Software Engineering (FASE) 2023
- Artifact Evaluation Committee of the European Conference on Object-Oriented Programming (ECOOP) 2023
- International Workshop on Challenges in Performance Methods for Software Development (WOSP-C) at ICPE [2022,2024,2025]
- Artifact Evaluation Committee of the International Conference on Software Language Engineering (SLE) [2018,2019,2020,2021,2022]
- International Workshop on Model-Driven Engineering for Design-Runtime Interaction in Complex Systems (MDE@DeRun), at MODELS (2021)
- International Workshop on Modeling Language Engineering and Execution (MLE), at MODELS (2021)

Reviewer for the journals
- Transactions on Software Engineering and Methodology (TOSEM)
- Empirical Software Engineering (EMSE)
- Journal of System and Software (JSS)
- Information and Software Technology journal (IST)
- Performance evaluation (PEVA)
- Expert Systems with Applications (ESA)
- Science of Computer Programming (SCP)
- Journal of Software: Testing, Verification and Reliability (STVR)

Reviewer for the conferences
- International Conference on Software Language Engineering (SLE)
- International Conference on Automation Science and Engineering (CASE)

Sub-reviewer for the conferences
- International Conference on Fundamental Approaches to Software Engineering (FASE)
- European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE)
- International Conference on Software Architecture (ICSA)
- International Conference on Performance Engineering (ICPE)
- International Conference on Model Driven Engineering Languages and Systems (MODELS)
- European Conference on Modelling Foundations and Applications (ECMFA)
- Euromicro Conference Series on Software Engineering and Advanced Applications (SEAA)
- International Conference of Systems Modelling and Management (ICSMM)

INVITED TALKS

University of Hamburg, invited by André van Hoorn, Virtual   *April 19, 2022*

Talk title : Quality-centric Continuous Software Engineering

SPEC DevOps Research Group, Virtual   *November 23, 2021*

Talk title : A model-driven approach for continuous performance engineering in microservice-based systems

AWARDS

Best Paper Award   *June 23, 2023*

European Performance Engineering Workshop (EPEW) 2023

Best Poster Award   *March 16, 2023*

International Conference on Software Architecture (ICSA) 2023

2023 SPEC Impact Award   *February 6, 2023*

Nominated by : SPEC RG Steering Committee Members; Chairs and Co-Chairs of SPEC RG DevOps
https://spec.cs.miami.edu/spec/awards/2023/impactawards.html

PARTICIPATION TO RESEARCH PROJECTS

RECHARGE – Italian (PRIN) project   *since Nov 2023*

Title:	monitoRing, dEtection, and CHaracterization of performAnce ReGrEssions
Funded by:	Italian Government (Ministero dell'Università e della Ricerca, PRIN 2022 PNRR) – cod. P2022SELA7 – Decreto Direttoriale n. 1205 del 28/7/2023
Objectives:	To improve performance testing in CI/CD pipelines by enabling automated, scalable monitoring of software performance, generating effective performance test cases, and identifying the root causes of performance regressions. The project focuses on reducing the cost and expertise required for performance testing, increasing the reliability of regression detection, and empirically validating methods and tools that help teams detect, analyze, and prevent performance issues throughout the software lifecycle.
Contribution:	Writing of the proposal, and working on the identification and validation of root causes of performance regressions.
Website:	https://recharge-project.github.io/

SoBigData.it – European project   *since Mar 2023*

Title:	SoBigData.it - Strengthening the Italian RI for Social Mining and Big Data Analytics
Funded by:	European Union – NextGenerationEU – National Recovery and Resilience Plan (Piano Nazionale di Ripresa e Resilienza, PNRR) – Prot. IR0000013 — Avviso n. 3264 del 28/12/2021.
Objectives:	SoBigData RI is a distributed, Pan-European, multi-disciplinary research infrastructure aimed at using social mining and big data to understand the complexity of our contemporary, globally-interconnected society.
Contribution:	Task lead of "Activity 6.5 – UNIVAQ services integration". Design and public procurement of the computational node of the University of L'Aquila. Responsible for the integration of University of L'Aquila services in the SoBigData infrastructure.
Website:	http://sobigdata.eu/

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

AI-PROACT – European project   *2025*

Title:	gen AI cybersecurity Prevention & Response cOntinuous Audit Compliance Toolkit
Call:	Increased Cybersecurity - HORIZON-CL3-2025-02-CS-ECCC (status: under evaluation)
Objectives:	To enhance Europe's cybersecurity and digital sovereignty by combining Generative AI, Model-Based Systems Engineering, and Digital Twins to enable continuous monitoring, regulatory compliance, and automated remediation of critical digital systems, addressing advanced threats while reducing the burden of EU cybersecurity compliance.
Contribution:	We proposed a foundation model-based cybersecurity assistant that enhances anomaly detection, root cause analysis, and automated threat simulation in complex systems. It provides explainable, actionable insights and generates realistic attack scenarios to test system resilience by reasoning over telemetry, system context, and vulnerability knowledge. This enables faster, more trustworthy detection, forensic analysis, and validation of security postures in adaptive, AI-driven cyber-defense environments.

AIDOaRt – European project   *2021*

Title:	AI-augmented automation for efficient DevOps, a model-based framework for continuous development At Run Time in cyber-physical systems
Funded by:	Electronic Component Systems for European Leadership Joint Undertaking (ECSEL-JU) under grant agreement No 101007350.
Objectives:	To provide a model-based framework to more efficiently support the continuous software and system engineering of CPSs and CPSoS via AI-augmentation. Complementary to the support for already existing systems of any kind, AIDOaRt also aims at improving the continuous development of new modern CPSs / CPSoS.
Contribution:	Gathering and redaction of industrial use cases for the validation of the expected project results, contribution to the overall methodology and time planning of the project.

ORGANIZATION OF AND PARTICIPATION TO RESEARCH GROUPS

Steering Committee member of the Standard Performance Evaluation Corporation (SPEC) Research Group   *since Aug 2024*

Established to serve as a platform for collaborative research efforts in the area of quantitative system

evaluation and analysis, fostering the interaction between industry and academia in the field.
https://research.spec.org/steering-committee/

Vice-chair of the "DevOps performance" working group of the Standard *since Sep 2024*
Performance Evaluation Corporation (SPEC) Research Group
Composed by both researchers and practitioners from the industry. Focusing on performance problems in
DevOps. https://research.spec.org/working-groups/rg-devops/

Co-organizer of the SPEC research subgroup on Performance Changepoint *since Apr 2021*
Detection
Composed by both researchers and practitioners from the industry. Focusing on changepoint analysis in time
series of performance measurements.

Member of the SPEC research group "AIware" *since Sep 2025*
Composed by researchers from Canada, China, and Italy. Focusing on performance evaluation of AI-based
systems.

Member of the SPEC research group on Energy-aware DevOps *since Mar 2025*
Composed by researchers from Canada, Germany, and Italy. Focusing on energy efficiency in DevOps
processes.

Member of the reseach group on Performance Regression Testing *since Nov 2023*
Composed by University of L'Aquila, University of Salerno, and University of Molise. Focusing on regression
testing techniques for performance analysis in CI/CD.

Release Manager for the SPEC Research Group *since April 2022*
Responsible for the review process of the software tools submitted for publication within the SPEC
consortium.

Member of the Software Performance Engineering Laboratory (SPENCER) *since April 2022*
research group
Research laboratory of the University of L'Aquila focusing on techniques and methodologies for the analysis
and optimization of software performance, also in combination with other software quality attributes.

Co-organizer of the SPEC research subgroup on Search-based Software *Jan 2022 - July 2025*
Performance Engineering
International research group focusing on the application of search-based optimization techniques to
performance problems in software engineering.

Member of the research group on the Performance Regression Testing of *since Sep 2021*
GraalVM
Collaboration between the D3S department of Charles University and the Performance Engineering group at
Oracle Labs.

Member of SWEN (Software Engineering Research Group), formerly SEA *since November 2017*
Group (Software Engineering and Architecture)
Research group of the University of L'Aquila focusing on a wide range of challenges in software engineering,
spanning from performance and synthesis to architecture and automation. The group is composed by a team
of full, associate, and assistant professors, postdocs, and PhD students, all engaged in cutting-edge research in
collaboration with academic and industrial partners worldwide.

TEACHING

Open and Big Data Management and Processing *2024-2025*

15 hours within the Master's degree course in Applied Data Science at University of L'Aquila, Italy.
Topics: linked open data, data cleaning, SPARQL.

Database Systems *2024-2025*

48 hours within the Master's degree course in Applied Data Science at University of L'Aquila, Italy.
Topics: database concepts and design, relational algebra, Entity Relationship diagrams, SQL.

Open and Big Data Management and Processing *2023-2024*

15 hours within the Master's degree course in Applied Data Science at University of L'Aquila, Italy.
Topics: linked open data, data cleaning, SPARQL.

Database Systems *2023-2024*

48 hours within the Master's degree course in Applied Data Science at University of L'Aquila, Italy.
Topics: database concepts and design, relational algebra, Entity Relationship diagrams, SQL.

Management and Analysis Systems for (Big)data *2022-2023*

20 hours within the I level Specializing-Master course in Post Catastrophe Technical-Administrative
Management in local authorities, at University of L'Aquila, Italy.
Topics: Data management, BigData, data analysis techniques.

Database Systems *2022-2023*

36 hours within the Master's degree course in Applied Data Science at University of L'Aquila, Italy.
Topics: database concepts and design, relational algebra, Entity Relationship diagrams, SQL.

Mobile Applications *2020-2021*

2 hours each year within a Bachelor degree course in Computer Science at University of L'Aquila, Italy.
Topics: Version Control Systems, Git, collaboration practices in software development.

Operating Systems Laboratory *2018*

22 hours within a Bachelor degree course in Computer Science at University of L'Aquila, Italy.
Topics: Linux basics, Bash shell and scripting, filesystem, processes management, permissions.

PHD SUPERVISION

Davide Vegliante *since Nov 2025*

Topic: Energy efficiency in DevOps processes

Idrees Ahmad *since May 2024*

Topic: Reinforcement-learning for performance load testing

Muhammad Waheed Khan *since Dec 2023*

Topic: Software refactoring to improve performance and energy

Gennaro Zanfardino *since Mar 2023*

Topic: Engineering Software Systems for Territorial Monitoring and Planning

THESES SUPERVISION / REVIEWING

Manuel Di Cresce *2025*

Co-supervision with : Daniele Di Pompeo

MSc Thesis: Architectural refactoring and front-end redesign of a legacy performance modeling software
University of L'Aquila

Michele Intrevado *2024*

Co-supervision with : Daniele Di Pompeo
MSc Thesis: Microbenchmarking in functional programming in Elixir
University of L'Aquila

Agostino D'Agostino *2024*

Co-supervision with : Daniele Di Pompeo
BSc Thesis: Exploration of the Impact of Configuration Parameters on MongoDB Performance
University of L'Aquila

Fabrizio Paglia *2024*

Co-supervision with : Vittorio Cortellessa
BSc Thesis: Overhead analysis of system call tracing at the Linux kernel level
University of L'Aquila

Giacomo Sfratato *2024*

Co-supervision with : Daniele Di Pompeo
MSc Thesis: Performance Analysis of the Recent Evolution of Thread-based Parallelism in Python
University of L'Aquila

Muhammad Usama Bin Abad *2024*

Co-supervision with : Daniele Di Pompeo
MSc Thesis: Automated Classification of Performance Issues in Open-Source Repositories
University of L'Aquila

Vaan Amuthu Elango *2023*

Co-supervision with : Luca Traini
MSc Thesis: Automated classification of steady state in time series of performance measurements
University of L'Aquila

Alessandro Sablone *2023*

Co-supervision with : Daniele Di Pompeo
BSc Thesis: Design and implementation of a library for Java refactoring
University of L'Aquila

Milad Ashqi Abdullah *2023*

Member of the committee for the PhD exam
Charles University, Prague

Tomáš Drozdík *2023*

Reviewer and opponent. Advisor : Vojtěch Horký
MSc Thesis: Asynchronous Duet Benchmarking
Charles University, Prague

Andrea Reale *2021*

Co-supervision with : Vittorio Cortellessa, Daniele Di Pompeo
BSc Thesis: Performance of J2EE applications when varying the application server

University of L'Aquila

Enrico Simone Adamelli *2021*

Co-supervision with : Vittorio Cortellessa, Daniele Di Pompeo
BSc Thesis: Performance unit testing reporting in open source applications
University of L'Aquila

Vincenzo De Petris *2020–2021*

Co-supervision with : Vittorio Cortellessa, Daniele Di Pompeo
BSc Thesis: Performance benchmarking of a Java application based on the microservices architecture
University of L'Aquila

Roberto Zaccagno *2018–2019*

Co-supervision with : Romina Eramo, Daniele Di Pompeo
BSc Thesis: Reverse Engineering of a web application based on the microservices architecture
University of L'Aquila

PARTICIPATION TO PHD SCHOOLS

Advanced Statistics and Data Mining, Madrid, Spain *2018*

Courses : Statistical Inference - Román Mínguez (Univ. de Castilla–La Mancha), Bayesian Inference - Mike Wiper, Concepción Ausín (Univ. Carlos III de Madrid), Bayesian Networks - Concha Bielza, Pedro Larrañaga, Bojan Mihaljević (Univ. Politécnica de Madrid), Hidden Markov Models - Agustín Álvarez (Univ. Politécnica de Madrid).

ATTENDED CONFERENCES

- International Conference on the Quality of Information and Communications Technology (QUATIC 2025), Lisbon, Portugal - **Panel: LLM in ICT Education**

- European Conference on Software Architecture (ECSA 2024), Luxembourg, Luxembourg - **Speaker**

- International Conference on Software Architecture (ICSA 2024), Hyderabad, India - **Speaker**

- ACM SIGMETRICS / IFIP Performance 2024, Venice, Italy

- European Performance Engineering Workshop (EPEW 2024), Venice, Italy - **Speaker**

- International Conference on Performance Engineering (ICPE 2024), London, UK - **Chair of the 'Microservices' sessions**

- National Conference on Disaster Resilience and Sustainable Development (Territori Aperti), Feb 1-2 2024, Naples, Italy - **Session chair**

- European Conference on Software Architecture (ECSA 2023), Istanbul, Turkey - **Speaker**

- Conference on System and Service Quality (QualITA 2023), Florence, Italy - **Speaker**

- European Performance Engineering Workshop (EPEW 2023), Florence, Italy - **Speaker**

- International Conference on Performance Engineering (ICPE 2023), Coimbra, Portugal - **Chair of the 'Performance measurements' session**

- International Conference on Software Architecture (ICSA 2023), L'Aquila, Italy

- International Conference on Performance Engineering (ICPE 2022), Virtual

- International Symposium on Computer Performance, Modeling, Measurements and Evaluation (IFIP 2021), Virtual

- Symposium on Software Performance (SSP 2021), Leipzig, Germany

- Euromicro Conference Series on Software Engineering and Advanced Applications (SEAA 2021), Virtual

- International Conference on Performance Engineering (ICPE 2021), Virtual

- International Conference on Model Driven Engineering Languages and Systems (MODELS 2020), 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

- Software Technologies: Applications and Foundations (STAF 2019), Eindhoven, Netherlands - **Speaker**

- International Conference on Software Architecture (ICSA 2019), Hamburg, Germany - **Speaker**

- International Conference on Model Driven Engineering Languages and Systems (MODELS 2018), Copenhagen, Denmark - **Speaker**

- International Conference on Software Architecture (ICSA 2018), Seattle, WA, USA - **Speaker**

PUBLICATIONS

Journal articles

2026

Beseda, M., Cortellessa, V., Di Pompeo, D., Traini, L., and Tucci, M. (2026). A Kernel-Based Approach for Accurate Steady-State Detection in Performance Time Series. In *Future Generation Computer Systems*.
https://doi.org/10.1016/j.future.2025.108233

Diaz-Pace, J.A., Di Pompeo, D. and Tucci, M. (2026). On the role of search budgets in model-based software refactoring optimization. In *Automated Software Engineering*.
https://doi.org/10.1007/s10515-025-00564-y

2025

Cortellessa, V., Diaz-Pace, J.A., Di Pompeo, D., Frank, S., Jamshidi, P., Tucci, M. and van Hoorn, A., (2025). Introducing Interactions in Multi-Objective Optimization of Software Architectures. In *ACM Transactions on Software Engineering and Methodology.*
https://doi.org/10.1145/3712185

2024

Eramo, R., Tucci, M., Di Pompeo, D., Cortellessa, V., Di Marco, A. and Taibi, D., (2024). Architectural Support for Software Performance in Continuous Software Engineering: A Systematic Mapping Study. In *Journal of Systems and Software.*
https://doi.org/10.1016/j.jss.2023.111833

2023

Cortellessa, V., Di Pompeo, D., Stoico, V., and Tucci, M. (2023). Many-Objective Optimization of Non-Functional Attributes based on Refactoring of Software Models. In *Journal of Information and Software Technology.*
https://doi.org/10.1016/j.infsof.2023.107159

Traini, L., Cortellessa, V., Di Pompeo, and Tucci, M. (2023). Towards effective assessment of steady state performance in Java software: Are we there yet?. In *Empirical Software Engineering*, 28(1):1-57.
https://doi.org/10.1007/s10664-022-10247-x

2022

Cortellessa, V., Di Pompeo, D., Eramo, R., and Tucci, M. (2022). A model-driven approach for continuous performance engineering in microservice-based systems. In *Journal of Systems and Software*, 183:111084.
https://doi.org/10.1016/j.jss.2021.111084

2021

Traini, L., Di Pompeo, D., Tucci, M., Lin, B., Scalabrino, S., Bavota, G., Lanza, M., Oliveto, R., Cortellessa, V. (2021). How Software Refactoring Impacts Execution Time. In *ACM Transactions on Software Engineering and Methodology*, 31, 2, Article 25, 23 pages.
https://doi.org/10.1145/3485136

2020

Cortellessa, V., Eramo, R., and Tucci, M. (2020). From software architecture to analysis models and back: Model-driven refactoring aimed at availability improvement. In *Journal of Information and Software Technology*, 127:106362.
https://doi.org/10.1016/j.infsof.2020.106362

Conference papers

2025

Ahmad, I., Cortellessa, V., Di Pompeo, D., Tucci, M., (2025). A Rule-based Approach for the Generation of Efficient Workloads in Load Testing. In *International Conference on Quality of Information and Communications Technology*. To appear.

2024

Cortellessa, V., Di Pompeo, D. and Tucci, M., (2024). Exploring sustainable alternatives for the deployment of microservices architectures in the cloud. In *International Conference on Software Architecture*.
https://doi.org/10.1109/ICSA59870.2024.00012

2023

Cortellessa, V., Diaz-Pace, J.A., Di Pompeo, D. and Tucci, M., (2023). Towards Assessing Spread in Sets of Software Architecture Designs. In *European Conference on Software Architecture*.
https://doi.org/10.1007/978-3-031-42592-9_9

Cortellessa, V., Di Pompeo, D. and Tucci, M., (2023). Performance of Genetic Algorithms in the Context of Software Model Refactoring. In *European Workshop on Performance Engineering*.
https://doi.org/10.1007/978-3-031-43185-2_16

Bulej, L., Horký, V., Tucci, M., Tuma, P., Farquet, F., Leopoldseder, D., and Prokopec, A. (2023). GraalVM Compiler Benchmark Results Dataset (Data Artifact). In *Companion of the International Conference on Performance Engineering*.
https://doi.org/10.1145/3578245.3585025

2022

Di Pompeo, D. and Tucci, M. (2022). Search Budget in Multi-Objective Refactoring Optimization: a Model-Based Empirical Study. In *Euromicro Conference on Software Engineering and Advanced Applications (SEAA 2022), pp. 406-413.*
https://doi.org/10.1109/SEAA56994.2022.00070

2021

Cortellessa, V., Di Pompeo, D., Stoico, V., and Tucci, M. (2021). On the impact of Performance Antipatterns in multi-objective software model refactoring optimization. In *Euromicro Conference on Software Engineering and Advanced Applications (SEAA 2021)*, pp. 224-233.
https://doi.org/10.1109/SEAA53835.2021.00036

2019

Eramo, R., de Kerchove, F. M., Colange, M., Tucci, M., Ouy, J., Brunelière, H., and Di Ruscio, D. (2019). Model-driven design-runtime interaction in safety critical system development: an experience

report. In *Journal of Object Technology - European Conference on Modelling Foundations and Applications (ECMFA 2019)*, 18(2):1:1–22.
https://doi.org/10.5381/jot.2019.18.2.a1

Arcelli, D., Cortellessa, V., Di Pompeo, D., Eramo, R., and Tucci, M. (2019). Exploiting architecture/runtime model-driven traceability for performance improvement. In *IEEE International Conference on Software Architecture, ICSA 2019, Hamburg, Germany, March 25-29, 2019*, pages 81–90. IEEE.
https://doi.org/10.1109/ICSA.2019.00017

2018

Cortellessa, V., Eramo, R., and Tucci, M. (2018). Availability-driven architectural change propagation through bidirectional model transformations between UML and Petri net models. In *IEEE International Conference on Software Architecture, ICSA 2018, Seattle, WA, USA, April 30 - May 4, 2018*, pages 125–134. IEEE Computer Society.
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