



Riccardo Reali

Date of birth: 27/03/1994

Nationality: Italian

CONTACT

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ABOUT ME

Currently, Freelance in the IT Development.

PhD in Smart Computing at the University of Florence.

Master Degree in Computer Engineering at the University of Florence, with graduation grade 110/110 cum Laude

Bachelor Degree in Computer Engineering at the University of Florence, with graduation grade 110/110 cum Laude

Interested in full-stack development, RESTful and microservice architectures and quantitative analysis.

Passionate of keyboards, guitars and whatever is related to music, but also movies and acting.

WORK EXPERIENCE

University of Florence Firenze, Italy

Information Engineer Researcher

01/06/2022 – 31/07/2024

Research topic: quantitative analysis and prediction methods for smart Quantitative Support

Conducted activities: quantitative methods design and implementation, support to students, dissemination.

University of Florence Firenze, Italy

Information Engineer Researcher

01/06/2019 – 31/10/2019

Research topic: model driven engineering (MDE) and quantitative analysis of non-markovian management of a manufacturing district

Conducted activities: quantitative methods design and implementation, mapping from system model context design and implementation, support to students, papers publication and knowledge

Sintra Digital Business Arezzo, Italy

ASP.NET Core developer

01/10/2018 – 30/05/2019

Stage for Master Degree dissertation, building a REST application to monitor home-to-school

Activities: design and back-end development and implementation. Specialization in the use of

Arezzo

Full Stack Development - Freelance

01/10/2024 – Current

- Backend development with .NET, Java Spring, Java Spring Webflux

- Frontend development with Vue.js, React.js

- Website, Portfolio, Blog and E-commerce site development with Wordpress, Framewor

EDUCATION AND TRAINING

01/11/2019 – 17/03/2023 Firenze, Italy

PhD Degree in Smart Computing Universities of Florence, Pisa and Siena

Thesis title: A compositional approach for quantitative evaluation of stochastic workflows

Supervisor: Prof. Enrico Vicario

Address Via di S.Marta, 3, 50139, Firenze, Italy | **Website** <https://smartcomputing.unifi.it> | **Field of s**

Markovian Models, Model-Driven Engineering, Mathematical and Probabilistic methods

01/09/2016 – 11/04/2019 Firenze, Italy

Master Degree in Information Engineering University of Florence

Title: Children Monitor: a distributed and real-time system for tracking the home-school jo

Supervisors: Prof. Andrew D. Bagdanov, Prof. Enrico Vicario

Final Grade: 110/110 cum Laude

Address Via di S.Marta, 3, 50139, Firenze, Italy | **Website** <https://www.ing-inm.unifi.it>

01/09/2013 – 10/02/2016 Firenze, Italy

Bachelor Degree in Information Engineering University of Florence

Thesis Title: Methods for SAR image despeckling based on sparse matrix representation

Supervisor: Prof. Fabrizio Argenti
Final Grade: 110/110 cum Laude

Address Via di S. Marta, 3, 50139, Firenze, Italy | **Website** <https://www.ing-inl.unifi.it>

PUBLICATIONS

2024

Elastic Autoscaling for Distributed Workflows in MEC Networks

Authors Benedetta Picano, Riccardo Reali, Leonardo Scommegna, Enrico Vicario |

Journal Name International Conference on Advanced Information Networking and Applications | **Publisher** Springer Nature Switzerland

2024

[Cost-Effective Software Rejuvenation Combining Time-Based and Inspection-Based Policies](#)

Authors Laura Carnevali, Marco Paolieri, Riccardo Reali, Leonardo Scommegna, Enrico Vicario |

Journal Name IEEE Transactions on Emerging Topics in Computing | **Publisher** IEEE

2023

Compositional safe approximation of response time probability density function of complex workflows

Authors: Laura Carnevali, Marco Paolieri, Riccardo Reali, Enrico Vicario

ACM Transactions on Modeling and Computer Simulation

<https://dl.acm.org/doi/pdf/10.1145/3591205>

2023

[A quantitative approach to coordinated scaling of resources in complex cloud computing workflows](#)

Computer Performance Engineering: 19th European Workshop, EPEW 2023, Florence, Italy, June 21–23, 2023. Proceedings under publication.

L.Carnevali, M.Paolieri, B.Picano, L.Scommegna, R.Reali, E.Vicario

2022

Eulero: A Tool for Quantitative Modeling and Evaluation of Complex Workflows

Authors: Laura Carnevali, Riccardo Reali, Enrico Vicario

Quantitative Evaluation of Systems: 19th International Conference, QEST 2022, Warsaw, Poland, September 12–16, 2022, Proceedings

https://link.springer.com/chapter/10.1007/978-3-031-16336-4_13

2022

A Markov Regenerative Model of Software Rejuvenation Beyond the Enabling Restriction

Authors: Laura Carnevali, Marco Paolieri, Riccardo Reali, Leonardo Scommegna, Enrico Vicario

2022 IEEE International Symposium on Software Reliability Engineering Workshops (ISSREW)

<https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=9985156>

2022

Using the ORIS Tool and the SIRIO Library for Model-Driven Engineering of Quantitative Analytics

Authors: Laura Carnevali, Marco Paolieri, Riccardo Reali, Leonardo Scommegna, Federico Tammaro, Enrico Vicario

Computer Performance Engineering: 18th European Workshop, EPEW 2022, Santa Pola, Spain, September 21–23, 2022, Proceedings

https://link.springer.com/chapter/10.1007/978-3-031-25049-1_13

2021

Compositional evaluation of stochastic workflows for response time analysis of composite web services

Authors: L Carnevali, R Reali, E Vicario

Proceedings of the ACM/SPEC International Conference on Performance Engineering

<https://dl.acm.org/doi/pdf/10.1145/3427921.3450250>

2021

Compositional safe approximation of response time distribution of complex workflows

Authors: Laura Carnevali, Marco Paolieri, Riccardo Reali, Enrico Vicario

Quantitative Evaluation of Systems: 18th International Conference, QEST 2021, Paris, France, August 23–27, 2021, Proceedings

https://link.springer.com/chapter/10.1007/978-3-030-85172-9_5

CONFERENCES AND SEMINARS

21/06/2023 – 23/06/2023 Florence (Italy)

EPEW23

Conference: 19th European Performance Engineering Workshop

Presented Paper: A quantitative approach to coordinated scaling of resources in complex cloud computing workflows

21/09/2022 – 23/09/2022 Santa Pola (Alicante, Spain)

EPEW22

Conference: 18th European Performance Engineering Workshop

Presented Paper: Using the ORIS tool and the SIRIO library for model driven engineering of quantitative analytics

13/09/2022 – 16/09/2022 Hybrid conference (due to pandemic), online participation

QEST22

Conference: 19th International Conference on Quantitative Evaluation of SysTems

Presented Paper: Eulero: A Tool for Quantitative Modeling and Evaluation of Complex Workflows

05/07/2022 – 08/07/2022 Modena (Italy)

RTSOPS22

Conference: 12th International Real-Time Scheduling Open Problems Seminar

Presented Open Issue Paper: Resource allocation for complex DAG tasks with probabilistic execution times

23/08/2021 – 27/08/2021 Online conference (due to pandemic)

QEST21

Conference: 18th International Conference on Quantitative Evaluation of SysTems

Presented Paper: Compositional safe approximation of response time distribution of complex workflows

19/04/2021 – 23/04/2021 Online conference (due to pandemic)

ICPE21

Conference: 12th International Conference on Performance Engineering

Presented Paper: Compositional evaluation of stochastic workflows for response time analysis of composite web services

Paper awarded with the *Best Paper* award

FUNDED PROJECTS

06/2022 – CURRENT

SCHEMA - University of Florence

Title: Supply CHain Evaluation with Model-based & data driven Approaches

Role: researcher and developer

Topics: designing and implementation of smart methods for prediction and analysis of processes in a manufacturing district, to support the supply chain planning.

06/2019 – 12/2020

DISMATED - University of Florence

Title: Distretto Manifatturiero Tessile Digitale

Role: researcher and developer

Topics: designing and implementation of prototypes for a smart Enterprise Resource Planning (ERP) application for the textile manufacturing district; design of quantitative analysis methods to support the prototyped ERP.

EVALUATION COMMITTEE

QEST23 - Artifact Evaluation Committee

Member of the Artifact Evaluation Committee for the 20th International Conference on Quantitative Evaluation of Systems (QEST23)

QEST22 - Artifact Evaluation Committee

Member of the Artifact Evaluation Committee for the 19th International Conference on Quantitative Evaluation of Systems (QEST22)

MEMBERSHIPS

Professional Association of Engineers of Arezzo (Italy)

Member of the Professional Association of Engineers of Arezzo from the year 2022.

HONOURS AND AWARDS

23/04/2021 12th ACM/SPEC International Conference on Performance Engineering

Best Paper Award - ICPE21

Received for paper: Compositional evaluation of stochastic workflows for response time analysis of composite web services

07/12/2019 Association of Engineers of Firenze

P. Ciullini e A. Chiarugi Award

Award for the best Master Degree thesis of the University of Florence in the area of Information Engineering.

Thesis title: Children Monitor: a distributed and real-time system for tracking the home-school journey of primary school students.

PERSONAL SKILLS

Programming Languages

Java, Python, C, C++, C#, Matlab, Wolfram Mathematica, Javascript, CSS, HTML5

Developing Frameworks

Spring Framework and Java/Jakarta Enterprise Edition, ASP.NET Core, Angular.js, Vue.js, React.js

Modelling Tools

Oris Tool, Sirio Library.

LANGUAGE SKILLS

MOTHER TONGUE(S): Italian

Other language(s):

English

Listening C1

Spoken production C1

Reading C1

Spoken interaction C1

Writing C1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user