Ivano Malavolta

Associate professor

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Personal information

Date of birth	July 19th, 1983
Nationality	Italian
Website	`http://www.ivanomalavolta.com`

Research interests

Empirical software engineering

Software architecture

Energy-efficient software

Model-driven engineering

Current positions

from May 2022	**Associate professor**, Vrije University Amsterdam, The Netherlands.
from May 2021	**Director**, Network Institute, Vrije University Amsterdam, The Netherlands

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Research positions

May 2016–April 2022	Assistant professor, Vrije University Amsterdam, The Netherlands. Research areas: Software engineering.
Apr 2019–May 2019	*Visiting Scholar*, Institute for Software Research, Carnegie Mellon University, Pittsburgh (USA). Research areas: Software architecture, robotic systems.
Apr 2014–Apr 2016	*Postdoc researcher*, Gran Sasso Science Institute (GSSI), L'Aquila. Research areas: Software Architectures, Model-Driven Engineering, Mobile-enabled systems, Cyber-physical systems.
Mar 2012–Jun 2016	*Lecturer*, Department of Information Engineering, Computer Science and Mathematics at University of L'Aquila. Activities: instructor of the "Mobile applications development" course for both Bachelor and Master students.
Aug 2012–Apr 2016	*Researcher associate*, Center of Excellence DEWS. Research areas: Model-Driven Engineering approaches for Wireless Sensor Networks
Mar 2012–Mar 2014	*Research fellow*, Computer Science Department at University of L'Aquila. Research areas: software architecture Modeling, ISO/IEC/IEEE 42010 standard concepts, Model-Driven Engineering, WSN Modeling.
Jun–Sept 2011	*Doctoral guest student*, Computer Communications Department, Middlesex University, London, UK. Activities: collaboration with prof. Leonardo Mostarda for the design and development of a generic framework to develop Wireless Sensor Networks (WSNs).
Sept–Oct 2010	*Doctoral guest student*, Software Engineering Group, VU University, Amsterdam, The Netherlands. Activities: collaboration with prof. Patricia Lago for the design and reporting of a study on the usage of ADLs in industry.

May–Oct 2009	*Visitor researcher*, Software Engineering Research Group, Istituto di Scienza e Tecnologie dell'Informazione A. Faedo (ISTI) - CNR (the Italian National Research Council), Pisa, Italy. Activities: collaboration for studying extensibility and change propagation between architecture description languages.
Sept–Oct 2008	*Doctoral guest student*, School of Innovation, Design and Engineering. Mälardalen University, Västerås, Sweden. Activities: Successfully completed the course "Research Methods in Natural Sciences and Engineering", level: Specialized/Phd.
May–Aug 2008	*Doctoral guest student*, MRTC Research Labs at Department of Computer Science and Electronics, Mälardalen University, Västerås, Sweden. Activities: collaboration with prof. Ivica Crnkovic on the interoperability between notations for real-time embedded systems.

Management positions

from 2019	*Program coordinator* of the Computer Science Master Track in Software Engineering and Green IT, Vrije Universiteit Amsterdam, the Netherlands
from 2019	*Program coordinator* of the international Double Degree Master programme in Software Engineering with the University of L'Aquila, Vrije Universiteit Amsterdam, the Netherlands
from 2017	Contact point for the *joint PhD degree* between the Gran Sasso Science Institute (Italy) and the Vrije Universiteit Amsterdam (the Netherlands)
from 2016	Member of the *education committee for the MSc Computer Science program*, Vrije Universiteit Amsterdam, the Netherlands
from 2016	Member of the *education committee for the MSc PDCS program*, Vrije Universiteit Amsterdam, the Netherlands
from 2021	**Board member** of the Connected World profile theme, Vrije Universiteit Amsterdam, the Netherlands
2018–2021	*Coordinator* of the Vertical docteam meetings of the Computer Science program, Vrije Universiteit Amsterdam, the Netherlands
2016–2020	Administrator of the *S2 research group website*, Vrije Universiteit Amsterdam, the Netherlands
2016–2017	Member of the *education committee for the BSc Computer Science program* (docententeam bachelor), Vrije Universiteit Amsterdam, the Netherlands
2014–2016	Member of the *PhD program organization board*, Gran Sasso Science Institute (GSSI), L'Aquila
2014–2016	Administrator of the *Computer Science website*, Gran Sasso Science Institute (GSSI), L'Aquila

Education

Nov 2021 - Jul 2022	**Leadership and management skills**, *Vrije Universiteit Amsterdam*. Course on how to develop academic leadership and management skills.
Oct-Nov 2021	**Supervising PhD candidates**, *Vrije Universiteit Amsterdam*. Course on how to develop coaching skills for supervising PhD candidates.

November 2013	**StartUp Program Boot Camp**, *MIP - School of Management of the Politecnico di Milano, Italy*.
	Intensive course on how to setup and run successful entrepreneurial projects.
July 2013	**TAROT**, *attended the 9th International Summer School on Training And Research On Testing, SIAF center, Volterra, (Italy)*.
Apr 2009	**MDD4DRES**, *attended the 4th International School on Model-Driven Development for Distributed Realtime Systems, Centre Paul Langevin, Aussois (France)*.
2008–2012	**PhD in Computer Science**, *Facoltà di Scienze MM. FF. NN. (Faculty of Sciences) of the University of L'Aquila with the maximum score*.
	PhD Thesis: "Software Architecture Modeling by Reuse, Composition and Customization"
	Supervisor: dr. Henry Muccini
	Available as a scientific book here: `http://amzn.com/3659198765`, ISBN: 978-3659198762
2005–2008	**Master Degree in Computer Science**, *Facoltà di Scienze MM. FF. NN. (Faculty of Sciences) of the University of L'Aquila with the maximum score "cum laude"*.
	Thesis: "DUALLy: an Eclipse platform for architectural languages interoperability"
	Supervisor: dr. Henry Muccini
	Available as a scientific book here: `http://amzn.com/3846534102`, ISBN: 978-3-8465-3410-6
2002–2005	**Bachelor Degree in Computer Science**, *Facoltà di Scienze MM. FF. NN. (Faculty of Sciences) of the University of L'Aquila with the maximum score "cum laude"*.
	Thesis: "A tamper resistant Intrusion Detection System: a CORBA implementation"
	Supervisors: prof. Paola Inverardi, dr. Leonardo Mostarda
	Available as a scientific book here: `http://amzn.com/3846542660`, ISBN: 978-3-8465-4266-8
1997–2002	**Maturità scientifica (high-school degree)**, *Liceo Scientifico "A. Einstein", Teramo (Italy)*, 70/100.

Industrial positions

Dec 2011 – Aug 2015	*Freelance*
	Business sector: Mobile and Web Applications
	Provided services: Design and Development of Mobile and Web Applications
May 2010 – Mar 2011	*Software Architect & Project Manager*, Tribe ICT (http://www.tribeict.it)
	Business sector: Geographic Information Systems

Main responsibilities: design, management, and technological support for the development of a distributed, extensible and customizable GIS framework. The system is based on the uDig platform (http://www.udig.org) and exploites the following technologies: Java, Eclipse (RCP, EMF, JFace), JTS, Geoserver, Geonetwork.

Oct–Feb 2008   *Developer*, Medea ICT (http://www.medeaict.it)

Business sector: Information technologies, document management systems.

Main responsibilities: development of a document management system in accordance with Italian security laws for the Regione Abruzzo. The system has been implemented as a J2EE web application using the following technologies: Java, JSF, IBM DB2, Eclipse, Jboss, Hibernate, Acegi Security, Ja-sig CAS single sign-on system.

Qualifications

June 2021   **Senior Teaching Qualification**, *Vrije Universiteit Amsterdam, The Netherlands*.

Called "Senior Kwalificatie Onderwijs" (SKO) in Dutch, it is recognized by all Dutch universities as proof of the ability to coordinate teaching at department or faculty level, develop a vision and innovate in teaching, chair curriculum committees.

December 2017   **National Scientific Qualification for Associate Professorship (both Computer Science and Information Engineering**, *Ministry of Education, Universities and Research (Italy)*.
Assessed by a national commission, it is based on scientific qualification criteria and used for University Professor position recruiting.

April 2017   **University Teaching Qualification**, *Vrije Universiteit Amsterdam, The Netherlands*.
Called "Basiskwalificatie Onderwijs" (BKO) in Dutch, it is recognized by all Dutch universities as proof of the ability to develop and teach courses at university level.

Associations

from 2018 to 2022   Member of the **Amsterdam Young Academy**, the cross-disciplinary platform for top young scientists from the University of Amsterdam and the Vrije Universiteit Amsterdam

from Nov 2016   Board member of **VERSEN**, the Dutch National Association for Software Engineering

from May 2016   Member of **Amsterdam Data Science**, the initiative of the main Amsterdam-based knowledge institutes (CWI, AUAS/HvA, UvA and VU) to develop world-class data science talent and technology within the Amsterdam region

from Apr 2012   Member of the Association for Computer Machinery (**ACM**)

from Apr 2012   Member of the IEEE Computer Society (**IEEE**)

Publications

[1] Ivano Malavolta. *Connected World: Insights from 100 Academics on How to Build Better Connections*, chapter Are We Too Connected? Our Ultra-Connectedness Is Definitely Not Green, pages 94–98. VU University Press Amsterdam, 2023.

[2] Madalina Dinga, Ivano Malavolta, Luca Giammattei, Antonio Guerriero, and Roberto Pietrantuono. An Empirical Evaluation of the Energy and Performance Overhead of Monitoring Tools

on Docker-based Systems. In *Proceedings of the 21st International Conference on Service-Oriented Computing*, ICSOC '23, page To appear, 2023.

[3] Malvina Latifaj, Federico Ciccozzi, Muhammad Waseem Anwar, Kousar Aslam, and Ivano mala-volta. Report on the Blended Modeling for Software Architectures Tutorial at ICSA 2023. *SIGSOFT Softw. Eng. Notes*, 48(3):20–23, jun 2023.

[4] Vincenzo Stoico, 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 *Proceedings of the 19th European Workshop on Computer Performance Engineering EPEW*, Lecture Notes in Computer Science, pages 249–263. Springer, 2023.

[5] Milica Dordevic, Michel Albonico, Grace Lewis, Ivano Malavolta, and Patricia Lago. Computation Offloading for Ground Robotic Systems Communicating over WiFi - An Empirical Exploration on Performance and Energy Trade-offs. *Empirical Software Engineering*, 28(140):1573–7616, 2023.

[6] Kousar Aslam, Yu Chen, Muhammad Butt, and Ivano Malavolta. Cross-Platform Real-Time Collaborative Modeling: an Architecture and a Prototype Implementation via EMF. Cloud. *IEEE Access*, pages 1–1, 2023.

[7] Malvina Latifaj, Federico Ciccozzi, Muhammad Waseem Anwar, Kousar Aslam, and Ivano Mala-volta. Blended Modelling for Software Architectures. In *2023 IEEE 20th International Conference on Software Architecture Companion (ICSA-C)*, pages 336–338. IEEE, 2023.

[8] Ivano Malavolta, Kishan Nirghin, Gian Luca Scoccia, Simone Romano, Salvatore Lombardi, Giuseppe Scanniello, and Patricia Lago. JavaScript Dead Code Identification, Elimination, and Empirical Assessment. *IEEE Transactions on Software Engineering*, -(-):To appear, 2023.

[9] Linus Wagner, Maximilian Mayer, Andrea Marino, Alireza Soltani Nezhad, Hugo Zwaan, and Ivano Malavolta. On the Energy Consumption and Performance of WebAssembly Binaries across Programming Languages and Runtimes in IoT. In *Proceedings of the 9th International Conference on Evaluation and Assessment on Software Engineering (EASE)*, pages 72–82. IEEE, 2023.

[10] Hesham Ahmed, Alina Boshchenko, Niaz Khan, Dmitriy Knyajev, Dinara Garifollina, Gian Luca Scoccia, Matias Martinez, and Ivano Malavolta. Evolution of Kotlin Apps in terms of Energy Consumption: An Exploratory Study. In *Proceedings of the International Conference on Information and Communications Technology for Sustainability (ICT4S)*, page To appear. ACM, 2023.

[11] Ruben Horn, Abdellah Lahnaoui, Edgardo Reinoso, Sicheng Peng, Vadim Isakov, Tanjina Islam, and Ivano Malavolta. Native vs Web Apps: Comparing the Energy Consumption and Performance of Android Apps and their Web Counterparts. In *10th IEEE/ACM International Conference on Mobile Software Engineering and Systems*, pages 44–54, 2023.

[12] Carolina Neves, ChiaYu Lin, Srishti Nigam, Daumantas Patapas, Ander Eguiluz, Tanjina Islam, and Ivano Malavolta. A Study on the Energy Consumption and Performance of Single-Activity Android Apps. In *Proceedings of the 7th International Workshop on Green and Sustainable Software (GREENS)*, pages 9–16. ACM, 2023.

[13] Istvan David, Kousar Aslam, Ivano Malavolta, and Patricia Lago. Collaborative Model-Driven Software Engineering – A Systematic Survey of Practices and Needs in Industry. *Journal of Systems and Software*, 199:111626, 2023.

[14] Jasper van Riet, Ivano Malavolta, and Taher Ahmed Ghaleb. Optimise Along the Way: An Industrial Case Study on Web Performance. *Journal of Systems and Software*, 198:111593, 2023.

[15] Michel Albonico, Milica Dordevic, Engel Hamer, and Ivano Malavolta. Software engineering research on the Robot Operating System: A systematic mapping study. *Journal of Systems and Software*, 197:111574, 2023.

[16] Istvan David, Malvina Latifaj, Jakob Pietron, Weixing Zhang, Federico Ciccozzi, Ivano Malavolta, Alexander Raschke, Jan-Philipp Steghofer, and Regina Hebig. Blended Modeling in Commercial and Open-source Model-Driven Software Engineering Tools: A Systematic Study. *Software & Systems Modeling*, 22:1619–1374, 2023.

[17] Ivano Malavolta, Henry Muccini, and Ipek Ozkaya. Software architecture and artificial intelligence. *Journal of Systems and Software*, 193:111436, 2022.

[18] Alessio Bucaioni, Amleto Di Salle, Ludovico Iovino, Ivano Malavolta, and Patrizio Pelliccione. Reference architectures modelling and compliance checking. *Software & Systems Modeling*, 193:1–27, 2022.

[19] Omar de Munk, Gian Luca Scoccia, and Ivano Malavolta. The state of the art in measurement-based experiments on the mobile web. *Information and Software Technology*, 149:106944, 2022.

[20] Raluca Hampau, Maurits Kaptein, Robin van Emden, Thomas Rost, and Ivano Malavolta. An empirical study on the Performance and Energy Consumption of AI Containerization Strategies for Computer-Vision Tasks on the Edge. In *Proceedings of the International Conference on Evaluation and Assessment on Software Engineering (EASE)*, pages 50–59. ACM, 2022.

[21] Max van Hasselt, Kevin Huijzendveld, Nienke Noort, Sasja de Ruijter, Tanjina Islam, and Ivano Malavolta. Comparing the Energy Efficiency of WebAssembly and JavaScript in Web Applications on Android Mobile Devices. In *Proceedings of the International Conference on Evaluation and Assessment on Software Engineering (EASE)*, pages 140–149. ACM, 2022.

[22] Kalle Janssen, Tim Pelle, Lucas de Geus, Reinier van der Gronden, Tanjina Islam, and Ivano Malavolta. On the Impact of the Critical CSS Technique on the Performance and Energy Consumption of Mobile Browsers. In *Proceedings of the International Conference on Evaluation and Assessment on Software Engineering (EASE)*, pages 130–139. ACM, 2022.

[23] Leonhard Wattenbach, Basel Aslan, Matteo Maria Fiore, Henley Ding, Roberto Verdecchia, and Ivano Malavolta. Do You Have the Energy for This Meeting? An Empirical Study on the Energy Consumption of the Google Meet and Zoom Android apps. In *9th IEEE/ACM International Conference on Mobile Software Engineering and Systems 2022*, pages 6–16, 2022.

[24] Eoin Grua, Martina De Sanctis, Ivano Malavolta, Mark Hoogendoorn, and Patricia Lago. An evaluation of the effectiveness of personalization and self-adaptation for e-Health apps. *Information and Software Technology*, 146:106841, 2022.

[25] Roberto Verdecchia, Ivano Malavolta, Patricia Lago, and Ipek Ozkaya. Empirical evaluation of an architectural technical debt index in the context of the Apache and ONAP ecosystems. *PeerJ Computer Science*, 8:e833, 2022.

[26] Ivano Malavolta, Taher Ahmed Ghaleb, Istvan David, Jasper van Rooijen, and Marielle Stoelinga. Engineering mobile apps for disaster management - the case of COVID-19 apps in the Google Play Store. *IEEE Software*, Early access:–, November 2021.

[27] Roberto Verdecchia, Philippe Kruchten, Patricia Lago, and Ivano Malavolta. Summary: Building and evaluating a theory of architectural technical debt in software-intensive systems (short paper). In *ECSA 2021 Companion Volume, 13-17 September, 2021*, volume 2978 of *CEUR Workshop Proceedings*, page Online. CEUR-WS.org, 2021.

[28] Steffen Herbold, Alexander Trautsch, Benjamin Ledel, Alireza Aghamohammadi, Taher Ahmed Ghaleb, Kuljit Kaur Chahal, Tim Bossenmaier, Bhaveet Nagaria, Philip Makedonski, Matin Nili Ahmadabadi, Kristof Szabados, Helge Spieker, Matej Madeja, Nathaniel Hoy, Valentina Lenarduzzi, Shangwen Wang, Gema Rodriguez-Perez, Ricardo Colomo-Palacios, Roberto Verdecchia, Paramvir Singh, Yihao Qin, Debasish Chakroborti, Willard Davis, Vijay Walunj, Hongjun Wu, Diego Marcilio, Omar Alam, Abdullah Aldaeej, Idan Amit, Burak Turhan, Simon Eismann, Anna-Katharina Wickert, Ivano Malavolta, Matus Sulir, Fatemeh Fard, Austin Z. Henley, Stratos Kourtzanidis, Eray Tuzun, Christoph Treude, Simin Maleki Shamasbi, Ivan Pashchenko, Marvin Wyrich, James Davis, Alexander Serebrenik, Ella Albrecht, Ethem Utku Aktas, Daniel Struber,

and Johannes Erbel. A Fine-grained Data Set and Analysis of Tangling in Bug Fixing Commits. *Empirical Software Engineering*, 27(6):125, 2021.

[29] Samuel Voogd, Kousar Aslam, Louis van Gool, Bart Theelen, and Ivano Malavolta. Real-Time Collaborative Modeling across Language Workbenches – a Case on Jetbrains MPS and Eclipse Spoofax. In *2021 ACM/IEEE International Conference on Model Driven Engineering Languages and Systems Companion (MODELS-C)*, pages 16–26, October 2021.

[30] Giuseppina Casalaro, Giulio Cattivera, Federico Ciccozzi, Ivano Malavolta, Andreas Wortmann, and Patrizio Pelliccione. Model-driven engineering for mobile robotic systems: a systematic mapping study. *Software & Systems Modeling*, 8:1–31, 8 2021.

[31] Michael Peters, Gian Luca Scoccia, and Ivano Malavolta. How does Migrating to Kotlin Impact the Run-time Efficiency of Android Apps? In *21st IEEE International Working Conference on Source Code Analysis and Manipulation (SCAM)*, pages 36–46, September 2021.

[32] Istvan David, Kousar Aslam, Sogol Faridmoayer, Ivano Malavolta, Eugene Syriani, and Patricia Lago. Collaborative Model-Driven Software Engineering: A Systematic Update. In *2021 ACM/IEEE 24th International Conference on Model Driven Engineering Languages and Systems (MODELS)*, pages 273–284. ACM/IEEE, 2021.

[33] Sebastian Ospina, Roberto Verdecchia, Ivano Malavolta, and Patricia Lago. ATDx: A tool for Providing a Data-driven Overview of Architectural Technical Debt in Software-intensive Systems. In *Proceedings of the European Conference on Software Architecture (ECSA)*, pages 531–539. Springer, 2021.

[34] Katerina Chinnappan, Ivano Malavolta, Grace Lewis, Michel Albonico, and Patricia Lago. Architectural Tactics for Energy-aware Robotics Software: A Preliminary Study. In *Proceedings of the European Conference on Software Architecture (ECSA)*, pages 164–171. Springer, 2021.

[35] Marco Autili, Ivano Malavolta, Alexander Perucci, Gian Luca Scoccia, and Roberto Verdecchia. Software Engineering Techniques for Statically Analyzing Mobile Apps: Research Trends, Characteristics, and Potential for Industrial Adoption. *Journal of Internet Services and Applications*, -:1–60, 2021.

[36] Ivano Malavolta, Grace A. Lewis, Bradley Schmerl, Patricia Lago, and David Garlan. Mining guidelines for architecting robotics software. *Journal of Systems and Software*, 178:110969, 2021.

[37] Omar de Munk and Ivano Malavolta. Measurement-based Experiments on the Mobile Web: A Systematic Mapping Study. In *Proceedings of the International Conference on Evaluation and Assessment on Software Engineering (EASE)*, pages 191–200. ACM, 2021.

[38] Eoin Martino Grua, Martina De Sanctis, Ivano Malavolta, Mark Hoogendoorn, and Patricia Lago. *Software Sustainability*, volume 1, chapter Social Sustainability in the e-Health Domain via Personalized and Self-adaptive Mobile Apps, pages 301–328. Springer, 2021.

[39] Stylianos Rammos, Mansi Mundra, Guijing Xu, Chuyi Tong, Wojciech Zakowski, and Ivano Malavolta. The Impact of Instant Messaging on the Energy Consumption of Android Devices. In *8th IEEE/ACM International Conference on Mobile Software Engineering and Systems 2021*, pages 1–11, 2021.

[40] Michel Albonico, Ivano Malavolta, Gustavo Pinto, Emitzá Guzmán, Katerina Chinnappan, and Patricia Lago. Mining energy-related practices in robotics software. In *Proceedings of the 18th International Conference on Mining Software Repositories, MSR*, pages 483–494, New York, NY, May 2021. IEEE / ACM.

[41] Ivano Malavolta, Katerina Chinnappan, Stan Swanborn, Grace Lewis, and Patricia Lago. Mining the ros ecosystem for green architectural tactics in robotics and an empirical evaluation. In *Proceedings of the 18th International Conference on Mining Software Repositories, MSR*, pages 300–311, New York, NY, May 2021. ACM.

[42] Roberto Verdecchia, Philippe Kruchten, Patricia Lago, and Ivano Malavolta. Building and evaluating a theory of architectural technical debt in software-intensive systems. *Journal of Systems and Software*, 176:110925, 2021.

[43] Stan Swanborn and Ivano Malavolta. Robot Runner: A Tool for Automatically Executing Experiments on Robotics Software. In *Proceedings of the ACM/IEEE 43rd International Conference on Software Engineering*, pages 33–36. ACM, 2021.

[44] Stan Swanborn and Ivano Malavolta. Energy Efficiency in Robotics Software: A Systematic Literature Review. In *35th IEEE/ACM International Conference on Automated Software Engineering Workshops (ASEW '20)*, pages 137–144. ACM, 2020.

[45] Ivano Malavolta, Eoin Martino Grua, Cheng-Yu Lam, Randy de Vries, Franky Tan, Eric Zielinski, Michael Peters, and Luuk Kaandorp. A Framework for the Automatic Execution of Measurement-based Experiments on Android Devices. In *35th IEEE/ACM International Conference on Automated Software Engineering Workshops (ASEW '20)*, pages 61–66. ACM, 2020.

[46] Jasper van Riet, Flavia Paganelli, and Ivano Malavolta. From 6.2 to 0.15 seconds - an Industrial Case Study on Mobile Web Performance. In *2020 IEEE International Conference on Software Maintenance and Evolution (ICSME)*, pages 746–755, 2020.

[47] Luciano Baresi, William Griswold, Grace Lewis, Marco Autili, Ivano Ivano Malavolta, and Christine Julien. Trends and Challenges for Software Engineering in the Mobile Domain. *IEEE Software*, 38(1):88–96, May 2021.

[48] Gian Luca Scoccia, Ibrahim Kanj, Ivano Malavolta, and Kaveh Razavi. Leave my Apps Alone! A Study on how Android Developers Access Installed Apps on User's Device. In *Proceedings of the IEEE/ACM 7th International Conference on Mobile Software Engineering and Systems*, pages 38–49, 2020.

[49] Ivano Malavolta, Katerina Chinnappan, Lukas Jasmontas, Sarthak Gupta, and Kaveh Ali Karam Soltany. Evaluating the Impact of Caching on the Energy Consumption and Performance of Progressive Web Apps. In *Proceedings of the IEEE/ACM 7th International Conference on Mobile Software Engineering and Systems*, pages 109–119, 2020.

[50] Roberto Verdecchia, Patricia Lago, Ivano Malavolta, and Ipek Ozkaya. ATDx: Building an Architectural Technical Debt Index. In *Proceedings of the 15th International Conference on Evaluation of Novel Approaches to Software Engineering, ENASE 2020, Prague, Czech Republic*, pages 531–539. SciTePress, 2020.

[51] Ivano Malavolta, Grace Lewis, Bradley Schmerl, Patricia Lago, and David Garlan. How do you Architect your Robots? State of the Practice and Guidelines for ROS-based Systems. In *Proceedings of the ACM/IEEE 42nd International Conference on Software Engineering: Software Engineering in Practice*, pages 31–40, 2020.

[52] Kwame Chan Jong Chu, Tanjina Islam, Miguel Morales Exposito, Sanjay Sheombar, Christian Valladares, Olivier Philippot, Eoin Martino Grua, and Ivano Malavolta. Investigating the correlation between performance scores and energy consumption of mobile web apps. In *Proceedings of the International Conference on Evaluation and Assessment on Software Engineering (EASE)*, pages 190–199. ACM, 2020.

[53] Teerath Das, Massimiliano Di Penta, and Ivano Malavolta. Characterizing the evolution of statically-detectable performance issues of android apps. *Empirical Software Engineering*, 25(4):2748–2808, 2020.

[54] Eduardo Barbaro, Eoin Martino Grua, Ivano Malavolta, Mirjana Stercevic, Esther Weusthof, and Jeroen van den Hoven. Modelling and predicting user engagement in mobile applications. *Data Science*, 3(2):61–77, 2020.

[55] Gian Luca Scoccia, Ivano Malavolta, Marco Autili, Amleto Di Salle, and Paola Inverardi. Enhancing Trustability of Android Applications via User-Centric Flexible Permissions. *IEEE Transactions on Software Engineering*, 47(10):2032–2051, 2021.

[56] Eoin Martino Grua, Mark Hoogendoorn, Ivano Malavolta, Patricia Lago, and A.E. Eiben. CluStream-GT: Online Clustering for Personalization in the Health Domain. In *18th IEEE/WIC/ACM International Conference on Web Intelligence (WI)*, pages 270–275, October 2019.

[57] Gian Luca Scoccia, Anthony Peruma, Virginia Pujols, Ivano Malavolta, and Daniel E. Krutz. Permission Issues in Open-source Android Apps: An Exploratory Study. In *19th IEEE International Working Conference on Source Code Analysis and Manipulation (SCAM)*, pages 238–249, September 2019.

[58] Eoin Martino Grua, Ivano Malavolta, and Patricia Lago. Self-Adaptation in Mobile Apps: a Systematic Literature Study. In *Proceedings of the 14th International Conference on Software Engineering for Adaptive and Self-Managing Systems (SEAMS)*, pages 51–62, May 2019.

[59] Darko Bozhinoski, David Garlan, Ivano Malavolta, and Patrizio Pelliccione. Managing Safety and Mission Completion via Collective Run-time Adaptation. *Journal of Systems Architecture*, 95:19–35, 2019.

[60] Ivano Malavolta, Francesco Nocera, Patricia Lago, and Marina Mongiello. Navigation-aware and Personalized Prefetching of Network Requests in Android Apps. In *Proceedings of the 41st ACM/IEEE International Conference on Software Engineering*, pages 17–20. IEEE Press, May 2019.

[61] Roberto Verdecchia, Ivano Malavolta, and Patricia Lago. Guidelines for Architecting Android Apps: A Mixed-Method Empirical Study. In *2019 IEEE International Conference on Software Architecture, ICSA 2019, Hamburg, Germany*, pages 141–150, March 2019.

[62] Darko Bozhinoski, Davide Di Ruscio, Ivano Malavolta, Patrizio Pelliccione, and Ivica Crnkovic. Safety for Mobile Robotic Systems: a Systematic Mapping Study from a Software Engineering Perspective. *Journal of Systems and Software*, 151:150–179, 2019.

[63] Paolo Di Francesco, Patricia Lago, and Ivano Malavolta. Architecting with microservices: A systematic mapping study. *Journal of Systems and Software*, 150:77 – 97, 2019.

[64] Yuriy Zacchia Lun, Alessandro D'Innocenzo, Francesco Smarra, Ivano Malavolta, and Maria Domenica Di Benedetto. State of the art of cyber-physical systems security: an automatic control perspective. *Journal of Systems and Software*, 149:174 – 216, 2019.

[65] Mario Cardarelli, Ludovico Iovino, Paolo Di Francesco, Amleto Di Salle, Ivano Malavolta, and Patricia Lago. An Extensible Data-Driven Approach for Evaluating the Quality of Microservice Architectures. In *Proceedings of the 34th Annual ACM/SIGAPP Symposium on Applied Computing, SAC 2019, Limassol, Cyprus, April 08-12, 2019*, pages 1225–1234, 2019.

[66] Federico Ciccozzi, Nico Hochgeschwender, Ivano Malavolta, and Andreas Wortmann. Report on the 2nd international workshop on robotics software engineering (rose'19). *SIGSOFT Softw. Eng. Notes*, 44(3):38–40, oct 2020.

[67] Franz-Xaver Geiger and Ivano Malavolta. Datasets of Android Applications: a Literature Review. In *arXiv 1809.10069*, page preprint, 2018.

[68] Ivano Malavolta, Leonardo Mostarda, Henry Muccini, Enver Ever, Krishna Doddapaneni, and Orhan Gemikonakli. A4WSN: an architecture-driven modelling platform for analysing and developing WSNs. *Software & Systems Modeling*, 18:1–21, 7 2018.

[69] Ivano Malavolta, Roberto Verdecchia, Bojan Filipovic, Magiel Bruntink, and Patricia Lago. How maintainability issues of android apps evolve. In *IEEE International Conference on Software Maintenance and Evolution, ICSME 2018, Madrid, Spain, September 24-29, 2018*, pages 334–344, 2018.

[70] Francesco Gallo, Ludovico Iovino, Enzo Falco, Ivano Malavolta, Adam Radzimski, and Stefano Ruberto. *Envisaging L'Aquila. Strategies, spatialities and sociabilities of a post-disaster city*, volume 1, chapter ICTs and public transport in the dispersed city, pages 117–130. Springer, 2018.

[71] Federico Ciccozzi, Ivano Malavolta, and Bran Selic. Execution of UML models: a systematic review of research and practice. *Software & Systems Modeling*, 18(1):1–48, 2018.

[72] Mirco Franzago, Ivano Malavolta, Davide Di Ruscio, and Henry Muccini. Collaborative Model-Driven Software Engineering: a Classification Framework and a Research Map [Extended Abstract]. In *Proceedings of the 40th International Conference on Software Engineering Companion*, ICSE-C '18, pages 535–535. IEEE Press, May 2018.

[73] Franz-Xaver Geiger, Ivano Malavolta, Luca Pascarella, Fabio Palomba, Dario Di Nucci, Ivano Malavolta, and Alberto Bacchelli. A Graph-based Dataset of Commit History of Real-World Android apps. In *Proceedings of the 15th International Conference on Mining Software Repositories, MSR*, pages 30–33, New York, NY, May 2018. ACM.

[74] Gian Luca Scoccia, Ivano Malavolta, Marco Autili, Amleto Di Salle, and Paola Inverardi. An Investigation into Android Run-time Permissions from the End Users' Perspective. In *5th IEEE/ACM International Conference on Mobile Software Engineering and Systems*, pages 45–55, New York, NY, May 2018. ACM.

[75] Luca Pascarella, Franz-Xaver Geiger, Fabio Palomba, Dario Di Nucci, Ivano Malavolta, and Alberto Bacchelli. Self-Reported Activities of Android Developers. In *5th IEEE/ACM International Conference on Mobile Software Engineering and Systems*, pages 144–155, New York, NY, May 2018. ACM.

[76] Paolo Di Francesco, Ivano Malavolta, and Patricia Lago. Migrating towards Microservice Architectures: an Industrial Survey. In *2018 IEEE International Conference on Software Architecture, ICSA 2018, Seattle, USA, April 30 - May 4, 2018*, pages 29–38, May 2018.

[77] Roberto Verdecchia, Ivano Malavolta, and Patricia Lago. Architectural Technical Debt Identification: the Research Landscape. In *International Conference on Technical Debt*, pages 11–20. ACM, 2018.

[78] Niels Groot Obbink, Ivano Malavolta, Gian Luca Scoccia, and Patricia Lago. An Extensible Approach for Taming the Challenges of JavaScript Dead Code Elimination. In *Software Analysis, Evolution and Reengineering (SANER), 2018 IEEE 25th International Conference on*, pages 291–401. IEEE, 2018.

[79] Mirco Franzago, Davide Di Ruscio, Ivano Malavolta, and Henry Muccini. Collaborative Model-Driven Software Engineering: a Classification Framework and a Research Map. *IEEE Transactions on Software Engineering*, 14(12):1146–1175, December 2018.

[80] Enzo Falco, Ivano Malavolta, Adam Radzimski, Stefano Ruberto, Ludovico Iovino, and Francesco Gallo. Smart City L'Aquila: An Application of the Infostructure Approach to Public Urban Mobility in a Post-Disaster Context. *Journal of Urban Technology*, 24(4):1–23, 2017.

[81] Roberto Verdecchia, Giuseppe Procaccianti, Ivano Malavolta, Patricia Lago, and Joost Koedijk. Estimating Energy Impact of Software Releases and Deployment Strategies: the KPMG Case Study. In *Proceedings of the 11th ACM/IEEE International Symposium on Empirical Software Engineering and Measurement, ESEM 2017, Toronto, Canada, November 9-10, 2017*, pages 257–266, 2017.

[82] Ivano Malavolta and Rafael Capilla. Current Research Topics and Trends in the Software Architecture Community: ICSA 2017 Workshops Summary. In *2017 IEEE International Conference on Software Architecture Workshops (ICSAW)*, pages 1–4, April 2017.

[83] Sébastien Gérard, Dimitrios S. Kolovos, Ivano Malavolta, and Henry Muccini. Report from the 1st International Workshop on Collaborative Modelling in MDE (COMMitMDE'16). *SIGSOFT Softw. Eng. Notes*, 42(1):26–27, March 2017.

[84] Ivano Malavolta, Giuseppe Procaccianti, Paul Noorland, and Petar Vukmirovic. Assessing the Impact of Service Workers on the Energy Efficiency of Progressive Web Apps. In *Proceedings of the International Conference on Mobile Software Engineering and Systems, MOBILESoft '17, Buenos Aires, Argentina, May, 2017*, pages 35–45, 2017.

[85] Giona Granchelli, Mario Cardarelli, Paolo Di Francesco, Ivano Malavolta, Ludovico Iovino, and Amleto Di Salle. MicroART: A Software Architecture Recovery Tool for Maintaining Microservice-based Systems. In *Proceedings of the 14th International Conference on Software Architecture (ICSA)*, pages 298–302. IEEE, 2017.

[86] Giona Granchelli, Mario Cardarelli, Paolo Di Francesco, Ivano Malavolta, Ludovico Iovino, and Amleto Di Salle. Towards Recovering the Software Architecture of Microservice-based Systems. In *2017 IEEE International Conference on Software Architecture Workshops, ICSA Workshops 2017, Gothenburg, Sweden, April 5-7, 2017*, pages 46–53, April 2017.

[87] Paolo Di Francesco, Ivano Malavolta, and Patricia Lago. Research on Architecting Microservices: Trends, Focus, and Potential for Industrial Adoption. In *2017 IEEE International Conference on Software Architecture, ICSA 2017, Gothenburg, Sweden, April 3-7, 2017*, pages 21–30, April 2017.

[88] Gian Luca Scoccia, Ivano Malavolta, Marco Autili, Amleto Di Salle, and Paola Inverardi. User-centric Android Flexible Permissions. In *Proceedings of the 39th International Conference on Software Engineering Companion*, pages 365–367. IEEE Press, May 2017.

[89] Mirco Franzago, Ivano Malavolta, Davide Di Ruscio, and Henry Muccini. Envisioning the future of collaborative model-driven software engineering. In *Proceedings of the 39th International Conference on Software Engineering Companion*, ICSE-C '17, pages 219–221, Piscataway, NJ, USA, May 2017. IEEE Press.

[90] Federico Ciccozzi, Davide Di Ruscio, Ivano Malavolta, Patrizio Pelliccione, and Jana Tumova. Engineering the Software of Robotic Systems. In *Proceedings of the 39th International Conference on Software Engineering Companion*, pages 507–508. IEEE Press, May 2017.

[91] Federico Ciccozzi, Ivica Crnkovic, Davide Di Ruscio, Ivano Malavolta, Patrizio Pelliccione, and Romina Spalazzese. Model-Driven Engineering for Mission-Critical IoT Systems. *IEEE Software*, 34(1):46–53, Jan 2017.

[92] Ivano Malavolta. Beyond Native Apps: Web Technologies to the Rescue! (Keynote). In *Proceedings of the 1st International Workshop on Mobile Development*, Mobile! 2016, pages 1–2. ACM, 2016.

[93] Federico Ciccozzi, Davide Di Ruscio, Ivano Malavolta, and Patrizio Pelliccione. Adopting MDE for Specifying and Executing Civilian Missions of Mobile Multi-Robot Systems. *IEEE Access*, 4:451–6466, 2016.

[94] Teerath Das, Massimiliano Di Penta, and Ivano Malavolta. A quantitative and qualitative investigation of performance-related commits in android apps. In *2016 IEEE International Conference on Software Maintenance and Evolution, ICSME 2016, Raleigh, NC, USA, October 2-7, 2016*, pages 443–447, 2016.

[95] Davide Di Ruscio, Ivano Malavolta, Patrizio Pelliccione, and Massimo Tivoli. Automatic Generation of detailed Flight Plans from High-level Mission Descriptions. In *ACM/IEEE 19th International Conference on Model Driven Engineering Languages and Systems (MODELS)*, pages 45–55. ACM/IEEE, Oct 2016.

[96] Darko Bozhinoski, Antonio Bucchiarone, Ivano Malavolta, Annapaola Marconi, and Patrizio Pelliccione. Leveraging Collective Run-time Adaptation for UAV-based Systems. In *42th Euromicro Conference on Software Engineering and Advanced Applications (SEAA)*, pages 214–221. IEEE, Aug 2016.

[97] Andrea Salini, Ivano Malavolta, and Fabrizio Rossi. Leveraging Web Analytics for Automatically Generating Mobile Navigation Models. In *IEEE International Conference on Mobile Services, MS 2016, San Francisco, CA, USA, June 27 - July 2, 2016*, pages 103–110. Institute of Electrical and Electronics Engineers (IEEE), June 2016.

[98] Ivica Crnkovic, Ivano Malavolta, Henry Muccini, and Mohammad Sharaf. On the Use of Component-Based Principles and Practices for Architecting Cyber-Physical Systems. In *19th*

International ACM SIGSOFT Symposium on Component-Based Software Engineering (CBSE), pages 23–32. Springer-Verlag, April 2016.

[99] Ivano Malavolta. Web-based hybrid mobile apps: state of the practice and research opportunities. In *Proceedings of the International Conference on Mobile Software Engineering and Systems, MOBILESoft '16, Austin, Texas, USA, May 14-22, 2016*, pages 241–242, 2016.

[100] Darko Bozhinoski, Davide Di Ruscio, Ivano Malavolta, Patrizio Pelliccione, and Massimo Tivoli. FLYAQ: Enabling Non-Expert Users to Specify and Generate Missions of Autonomous Multi-ticopters. In *Automated Software Engineering (ASE), 2015 30th IEEE/ACM International Conference on*, pages 801–806. IEEE, 9-13 November 2015.

[101] Darko Bozhinoski, Ivano Malavolta, Antonio Bucchiarone, and Annapaola Marconi. Sustainable safety in mobile multi-robot systems via collective adaptation. In *Self-Adaptive and Self-Organizing Systems (SASO), 2015 IEEE 9th International Conference on*, pages 172–173. IEEE, 2015.

[102] Marco Autili, Ivano Malavolta, Alexander Perucci, and Gian Luca Scoccia. Perspectives on static analysis of mobile apps (invited talk). In *Proceedings of the 3rd International Workshop on Software Development Lifecycle for Mobile, DeMobile 2015, Bergamo, Italy*, pages 29–30. ACM, 2015.

[103] Ivano Malavolta, Henry Muccini, and Mohammad Sharaf. A Preliminary Study on Architecting Cyber-Physical Systems. In *Proceedings of the 2015 European Conference on Software Architecture Workshops*, ECSAW '15, pages 20:1–20:6. ACM, 2015.

[104] Ivano Malavolta, Henry Muccini, and Marco Sebastiani. Automatically bridging UML profiles to MOF metamodels. In *Software Engineering and Advanced Applications (SEAA), 2015 41st Euromicro Conference on*, pages 259–266. IEEE, Aug 2015.

[105] Ivano Malavolta, Stefano Ruberto, Valerio Terragni, and Tommaso Soru. End Users' Perception of Hybrid Mobile Apps in the Google Play Store. In *Mobile Services (MS), 2015 IEEE International Conference on*, pages 25–32. Institute of Electrical and Electronics Engineers (IEEE), June 2015.

[106] Ivano Malavolta, Stefano Ruberto, Tommaso Soru, and Valerio Terragni. Hybrid mobile apps in the google play store: An exploratory investigation. In *Mobile Software Engineering and Systems (MOBILESoft), 2015 2nd ACM International Conference on*, pages 56–59, May 2015.

[107] Mirco Franzago, Ivano Malavolta, and Henry Muccini. Stakeholders, Viewpoints and Languages of a Modelling Framework for the Design and Development of Data-Intensive Mobile Apps. In *MobilENG 2014 Workshop, in conjunction with 5th international conference on Complex Systems Design & Management (CSD&M) 2014, Paris, France*, page arXiv preprint arXiv:1502.04014, 2014.

[108] Davide Di Ruscio, Ivano Malavolta, and Patrizio Pelliccione. A family of Domain-Specific Languages for specifying Civilian Missions of Multi-Robot Systems. In *Proceedings of the 1st International Workshop on Model-Driven Robot Software Engineering (MORSE)*, pages 13–26, 2014.

[109] Davide Di Ruscio, Ivano Malavolta, and Patrizio Pelliccione. The role of parts in the system behaviour. In *Software Engineering for Resilient Systems - 6th International Workshop, SERENE 2014, Budapest, Hungary, October 15-16, 2014. Proceedings*, pages 24–39, 2014.

[110] Ivano Malavolta, Henry Muccini, and V. Smrithi Rekha. Enhancing architecture design decisions evolution with group decision making principles. In *Software Engineering for Resilient Systems - 6th International Workshop, SERENE 2014, Budapest, Hungary, October 15-16, 2014. Proceedings*, pages 9–23, 2014.

[111] Patricia Lago, Ivano Malavolta, Henry Muccini, Patrizio Pelliccione, and Antony Tang. The road ahead for architectural languages. *Software, IEEE*, 32(1):98–104, 2015.

[112] Ivano Malavolta and Henry Muccini. A Study on MDE Approaches for Engineering Wireless Sensor Networks. In *Software Engineering and Advanced Applications (SEAA), 2014 40th EUROMICRO Conference on*, pages 149–157. IEEE, Aug 2014.

[113] Ivano Malavolta and Henry Muccini. A Survey on the Specification of the Physical Environment of Wireless Sensor Networks. In *Software Engineering and Advanced Applications (SEAA), 2014 40th EUROMICRO Conference on*, pages 245–253. IEEE, Aug 2014.

[114] Giampiero Di Paolo, Ivano Malavolta, and Henry Muccini. How do You Feel Today? Buggy! In *Software Engineering and Advanced Applications (SEAA), 2014 40th EUROMICRO Conference on*, pages 391–391. IEEE, 2014.

[115] Mirco Franzago, Henry Muccini, and Ivano Malavolta. Towards a collaborative framework for the design and development of data-intensive mobile applications. In *Proceedings of the 1st International Conference on Mobile Software Engineering and Systems*, pages 58–61. ACM, 2014.

[116] Alessandro Baroni, Henry Muccini, Ivano Malavolta, and Eoin Woods. Architecture Description Leveraging Model Driven Engineering and Semantic Wikis. In *Software Architecture (WICSA), 2014 IEEE/IFIP Conference on*, pages 251–254. IEEE, 2014.

[117] Ivano Malavolta, Patricia Lago, Henry Muccini, Patrizio Pelliccione, and Antony Tang. What Industry Needs from Architectural Languages: A Survey. *IEEE Transactions on Software Engineering*, 39(6):869–891, June 2013.

[118] Davide Di Ruscio, Ivano Malavolta, and Patrizio Pelliccione. Engineering a Platform for Mission Planning of Autonomous and Resilient Quadrotors. In *Software Engineering for Resilient Systems - Fifth International Workshop, SERENE 2013*, pages 33–47. Springer Berlin Heidelberg, 2013.

[119] Ludovico Iovino and Alfonso Pierantonio and Ivano Malavolta. On the Impact Significance of Metamodel Evolution in MDE. *Journal of Object Technology*, 11(3):3–1, 2012.

[120] Rich Hilliard, Ivano Malavolta, Henry Muccini, and Patrizio Pelliccione. On the Composition and Reuse of Viewpoints across Architecture Frameworks. In *10th Working IEEE/IFIP Conference on Software Architecture (WICSA) & 6th European Conference on Software Architecture (ECSA) - WICSA/ECSA 2012*, pages 131–140, aug 2012.

[121] Davide Di Ruscio, Ivano Malavolta, Henry Muccini, Patrizio Pelliccione, and Alfonso Pierantonio. Model-Driven Techniques to Enhance Architectural Languages Interoperability. In *Fundamental Approaches to Software Engineering (FASE)*, Lecture Notes in Computer Science, pages 26–42. Springer Berlin / Heidelberg, 2012.

[122] Krishna Doddapaneni, Enver Ever, Ivano Malavolta, Leonardo Mostarda, and Henry Muccini. A Model-Driven Engineering Framework for Architecting and Analysing Wireless Sensor Networks. In *Proceedings of the 3rd ICSE Workshop on Software Engineering for Sensor Network Applications (SESENA 2012), Zurich, Switzerland*, pages 1–7. ACM, july 2012.

[123] Krishna Doddapaneni, Enver Ever, Ivano Malavolta, Leonardo Mostarda, and Henry Muccini. Path Loss Effect on Energy Consumption in a WSN. In *14th International Conference on Modelling and Simulation (UKSIM)*, pages 569–574. IEEE, March 2012.

[124] Ivano Malavolta. *Software Architecture Modeling by Reuse, Composition and Customization*. PhD thesis, Computer Science Department, 2012.

[125] Ivano Malavolta. *A tamper resistant Intrusion Detection System: a CORBA implementation*. LAP Lambert Academic Publishing, 2011.

[126] Ivano Malavolta. *DUALLy: an Eclipse platform for architectural languages interoperability*. LAP Lambert Academic Publishing, 2011.

[127] Paul Clements, Maria J. Escalona, Paola Inverardi, Ivano Malavolta, and Eda Marchetti. Exploiting Software Architecture to support Requirements Satisfaction Testing. In *Proceedings of*

the the 8th joint meeting of the European software engineering conference and the ACM SIG-SOFT symposium on The foundations of software engineering, ESEC/FSE '11, pages 484–487. ACM, 2011.

[128] Ivano Malavolta, Henry Muccini, and V. Smrithi Rekha. Supporting Architectural Design Decisions Evolution through Model Driven Engineering. In *Proceedings of the 3rd International Workshop on Software Engineering for Resilient Systems (SERENE 2011)*, pages 63–77. ACM Digital Library, September 2011.

[129] Fabio Calvarese, Ivano Malavolta, and Antinisca Di Marco. Towards a graphical representation for the Æmilia Architecture Description Language. In *2nd Quantitative Information Workshop (infQ)*, 2011.

[130] Romina Eramo, Ivano Malavolta, Henry Muccini, Patrizio Pelliccione, and Alfonso Pierantonio. A model-driven approach to automate the propagation of changes among Architecture Description Languages. *Software and Systems Modeling*, 11:29–53, 2012. 10.1007/s10270-010-0170-z.

[131] Ivano Malavolta. A model-driven approach for managing software architectures with multiple evolving concerns. In *ECSA 2010 (Doctoral Symposium), 4th European Conference on Software Architecture*, pages 4–8, aug 2010.

[132] Davide Di Ruscio, Ivano Malavolta, Henry Muccini, Patrizio Pelliccione, and Alfonso Pierantonio. ByADL: an MDE framework for building extensible Architecture Description Languages. In *4th European Conference on Software Architecture (ECSA 2010)*, pages 527–531, aug 2010.

[133] Davide Di Ruscio, Ivano Malavolta, Henry Muccini, Patrizio Pelliccione, and Alfonso Pierantonio. Developing next generation ADLs through MDE techniques. In *32nd International Conference on Software Engineering (ICSE 2010)*, pages 85–94, may 2010.

[134] Ivano Malavolta. Providing support for creating next generation software architecture languages. In *ACM Student Reseach Competition, Poster session at ICSE 2010*, pages 517–518, 2010.

[135] Ivano Malavolta, Henry Muccini, Patrizio Pelliccione, and Damien Tamburri. Providing Architectural Languages and Tools Interoperability through Model Transformation Technologies. *IEEE Transactions on Software Engineering*, 36(1):119–140, jan 2010.

[136] Rich Hilliard, Ivano Malavolta, Henry Muccini, and Patrizio Pelliccione. Realizing architecture frameworks through megamodelling techniques. In *25th IEEE/ACM International Conference on Automated Software Engineering (ASE 2010)*, pages 305–308, 2010.

[137] Ivica Crnkovic, Ivano Malavolta, and Henry Muccini. A Model-Driven Engineering Framework for Component Models Interoperability. In Iman Poernomo Christine Hofmeister, Grace A. Lewis, editor, *Proceedings of the 12th International Symposium on Component-Based Software Engineering (CBSE 2009)*, pages 36–53, Berlin, Heidelberg, June 2009. Springer-Verlag.

[138] Ivano Malavolta, Henry Muccini, and Patrizio Pelliccione. Integrating AADL within a Multi-domain Modeling Framework. In *IEEE International Conference on Engineering of Complex Computer Systems*, volume 0, pages 341–346, Los Alamitos, CA, USA, 2009. IEEE Computer Society.

[139] Ivano Malavolta, Henry Muccini, and Patrizio Pelliccione. DUALLY: a framework for Architectural Languages and Tools Interoperability. In *23rd IEEE/ACM International Conference on Automated Software Engineering (ASE2008)*, pages 483–484. IEEE Computer Science Press, 15-19 September 2008.

[140] Ivano Malavolta. DUALLY: un Framework per l'Interoperabilita' tra Linguaggi e Tool Architetturali. In *Student Track Demo of the Third Italian Workshop on Eclipse Technologies, Eclipse-IT*. CEUR, nov 2008.

Editorial activities

Since 2023	Associate Editor for the **International Journal of Robotics Research (IJRR)** international journal, responsible for the *Software, Middleware and Programming Environments and Control Architectures and Programming* area
Since 2022	Associate Editor for the **Frontiers in Robotics and AI** international journal, member of the *Computational Intelligence in Robotics* section
2020–2021	Guest Editor for the special issue on Software Architecture and Artificial Intelligence in the **Journal of Systems and Software (JSS)**
2020–2021	Guest Editor for the special issue on Collective Knowledge in Software Engineering in the **Empirical Software Engineering journal**
Since 2020	Topic Editor for the **International Journal of Advanced Robotic Systems**, responsible for the *Robotics Software Design and Engineering* area
Since 2018	Associate Editor of the **IEEE Software** magazine, responsible for the *Software Design and Architecture* area

Program committees, chairing and reviewing activities

2024	*Program committee member* of ICSA 2024, the 20th International Conference on Software Architecture, Hyderabad, India.
	Program committee member of SANER 2024, the 31st IEEE International Conference on Software Analysis, Evolution and Reengineering, Rovaniemi, Finland.
	Program committee member of ICSE 2024 (Workshops track), 46th International Conference on Software Engineering, Lisbon, Portugal.
	Program committee member of MobileSoft 2024, the 11th IEEE/ACM International Conference on Mobile Software Engineering and Systems, Lisbon, Portugal.
	External reviewer of ICSE 2024, 46th International Conference on Software Engineering, Lisbon, Portugal.
2023	*Tutorials chair* of MODELS 2023, the ACM/IEEE 26th International Conference on Model-Driven Engineering Languages and Systems, Vasteras, Sweden.
	Program committee member of ICSE 2023, 45th International Conference on Software Engineering, Melbourne, Australia.
	Program committee member of ICSA 2023, the 19th International Conference on Software Architecture, L'Aquila, Italy.
	Program Committee member of ECSA 2023, 17th European Conference on Software Architecture, Istanbul, Turkey.
	Program committee member of EASE 2023, the 27th International Conference on Evaluation and Assessment in Software Engineering, Oulu, Finland.
	Program committee member of TechDebt 2023 (Short Papers track), 6th International Conference on Technical Debt, Melbourne, Australia.
	Reviewer of Sustainable Computing: Informatics and Systems (SUSCOM), Elsevier.
	Reviewer of the Transactions On Software Engineering And Methodology (TOSEM), ACM.
	Reviewer of the journal on Information and Software Technology (IST).
	Reviewer of the international journal of Science of Computer Programming (SCP), Elsevier.

2022   *Organizer* of RoSE 2022, 4th International Workshop on Robotics Software Engineering (co-located with ICSE 2022), Virtual.

Doctoral symposium chair of ICT4S 2022, 8th International Conference on ICT for Sustainability, Plovdiv, Bulgaria.

Reviewer for the Sustainable and Energy-Efficient Solutions for Future ICT national grant of the Academy of Finland.

Program committee member of ICSE 2022, 44th International Conference on Software Engineering, Pittsburgh, USA.

Program committee member of ICSA 2022, the 18th International Conference on Software Architecture, Honolulu, Hawaii, USA.

Program Committee member of ECSA 2022, 16th European Conference on Software Architecture, Prague, Czech Republic.

Program committee member of EASE 2022 (Industrial track), the 26th International Conference on Evaluation and Assessment in Software Engineering, Gothenburg, Sweden.

Program committee member of ICPC 2022, the 30th International Conference on Program Comprehension, Pittsburgh, USA.

Program committee member of MSR4SA 2022, 2nd International Workshop on Mining Software Repositories for Software Architecture (co-located with ECSA 2022), Prague, Czech Republic.

Program committee member of WANDER 2022, 1st international workshop on Web Acceleration for Developing Regions (co-located with WWW 2022), Lyon, France.

Program committee member of BENEVOL 2022, the 21st Belgian-Netherlands Software Evolution Workshop.

Reviewer of the international Journal of Systems and Software (JSS), Elsevier.

Reviewer of the Empirical Software Engineering (EMSE) journal, Springer.

Reviewer of the IEEE Transactions on Software Engineering (TSE).

Reviewer for the research, development and innovation programme ICT 2023 programme (national funding programme of the Academy of Finland).

2021   *Organizer* of RoSE 2021, 3rd International Workshop on Robotics Software Engineering (co-located with ICSE 2021), Virtual.

Organizer of MSR4SA 2021, 1st International Workshop on Mining Software Repositories for Software Architecture (co-located with ECSA 2021), Virtual.

Program committee member of ICSE 2021 (New Ideas and Emerging Results track), 43rd International Conference on Software Engineering, Madrid, Spain.

Program committee member of ICSA 2021, the 18th International Conference on Software Architecture, Stuttgart, Germany.

Program Committee member of ECSA 2021, 15th European Conference on Software Architecture, Virtual.

Program committee member of MobileSoft 2021, the 8th IEEE/ACM International Conference on Mobile Software Engineering and Systems, Madrid, Spain.

Reviewer for ICRA 2021, IEEE International Conference on Robotics and Automation, Xi'an, China.

Program committee member of BoKSS 2021, the 1st International Workshop on the Body of Knowledge for Software Sustainability, Madrid, Spain.

Program committee member of MDE4SA 2021, 2nd International Workshop on Model-Driven Engineering for Software Architecture, Virtual.

Program committee member of BENEVOL 2021, the 20th Belgian-Netherlands Software Evolution Workshop.

2020   *Program Chair* of ECSA 2020, 14th European Conference on Software Architecture, L'Aquila, Italy.

Scientific organizer of ICT with Industry 2020, 8th workshop for direct and rapid interaction between ICT researchers and industrial partners within the Netherlands, Leiden, The Netherlands.

Program committee member of ICSA 2020, the 17th International Conference on Software Architecture, Salvador, Brazil.

Program committee member of MSR 2020 (Mining Challenge), the 17th International Conference on Mining Software Repositories, Seoul, South Korea.

Program committee member of ESEM 2020 (Emerging Results and Vision Papers), 14th ACM/IEEE International Symposium on Empirical Software Engineering and Measurement, Bari, Italy.

Program committee member of MobileSoft 2020, the 7th IEEE/ACM International Conference on Mobile Software Engineering and Systems, Seoul, South Korea.

Program committee member of QUATIC 2020, 13th International Conference on the Quality of Information and Communications Technology, Algarve, Portugal.

Program committee member of ICSOFT 2020, the 15th International Conference on Software Technologies, Lieusaint-Paris, France.

Program committee member of SEAA 2020, 46th Euromicro Conference on Software Engineering and Advanced Applications, Portoroz, Slovenia.

Program committee member of BENEVOL 2020, the 19th Belgian-Netherlands Software Evolution Workshop, BENEVOL2020.

Program committee member of Data4MDE 2020, 1st International Workshop on Data for MDE, Bergen, Norway.

Program committee member of MDE4SA 2020, 1st International Workshop on Model-Driven Engineering for Software Architecture, L'Aquila, Italy.

Program committee member of ENIAC 2020, 1st International Workshop on ENgineering Intelligent Applications' Code, Porto, Portugal.

Reviewer of the Automated Software Engineering journal (ASE), Springer.

Reviewer of the Software: Practice and Experience journal (SPE), Wiley.

Reviewer of the IEEE Communications Letters, IEEE.

2019   *Program chair* of MobileSoft 2019, the 6th IEEE/ACM International Conference on Mobile Software Engineering and Systems, Montreal, Canada.

Organizer of RoSE 2019, 2nd International Workshop on Robotics Software Engineering (co-located with ICSE 2019), Montreal, Canada.

Program committee member of ICSA 2019 (both Main and Workshops tracks), the 16th International Conference on Software Architecture, Hamburg, Germany.

Program committee member of ESEM 2019 (Emerging Results and Vision Papers), 13th ACM/IEEE International Symposium on Empirical Software Engineering and Measurement, Porto de Galinhas, Brazil.

Program committee member of SEAA 2019, 45th Euromicro Conference on Software Engineering and Advanced Applications, Kallithea, Greece.

Program committee member of QUATIC 2019, 12th International Conference on the Quality of Information and Communications Technology, Ciudad Real, Spain.

Program committee member of ICSOFT 2019, the 14th International Conference on Software Technologies, Prague, Czech Republic.

Program committee member of MORSE 2019, the 6th International Workshop on Model-driven Robot Software Engineering, co-located with MODELS 2019, Munich, Germany.

Program committee member of BENEVOL 2019, the 18th Belgian-Netherlands Software Evolution Workshop, Brussels, Belgium.

Program committee member of EnSEmble 2019, the 2nd International Workshop on Ensemble-based Software Engineering for Modern Computing Platforms, Tallin, Estonia.

Program committee member of MSE 2019, the 3rd international workshop on Microservices: Science and Engineering, Innopolis, Russia.

Program committee member of EnWoT & LMDS 2019, the 3rd Joint Workshop on Engineering the Web of Things and Liquid Multi-Device Software, co-located with ICWE 2019, Daejeon, Korea.

Reviewer for the book "Microservices: Science and Engineering", Springer, 2019.

Reviewer of the Transactions On Software Engineering And Methodology (TOSEM), ACM.

Reviewer of the international Journal of Systems and Software (JSS), Elsevier.

Reviewer of the IET Software journal.

External reviewer of SEH 2019, the 1st International Workshop on Software Engineering for Healthcare, co-located with ICSE 2019, Montreal, Canada.

2018   *Social media chair* of ICSE 2018, the 40th International Conference on Software Engineering, Gothenburg, Sweden.

Visions chair of MobileSoft 2018, the 5th IEEE/ACM International Conference on Mobile Software Engineering and Systems, Gothenburg, Sweden.

Organizer of GREENS 2018, 6th International Workshop on Green and Sustainable Software (co-located with ICSE 2018), Gothenburg, Sweden.

Organizer of RoSE 2018, 1st International Workshop on Robotics Software Engineering (co-located with ICSE 2018), Gothenburg, Sweden.

Organizer of COMMitMDE 2018, 3rd International Workshop on Collaborative Modelling in MDE (co-located with MODELS 2018), Copenhagen, Denmark.

Program committee member of ICSA 2018, the 15th International Conference on Software Architecture, Seattle, USA.

Program committee member of ESEM 2018 (posters track), 12th ACM/IEEE International Symposium on Empirical Software Engineering and Measurement, Oulu, Finland.

Program committee member of MobileSoft 2018, the 5th IEEE/ACM International Conference on Mobile Software Engineering and Systems, Gothenburg, Sweden.

Program committee member of SEAA 2018, 44th Euromicro Conference on Software Engineering and Advanced Applications, Prague, Czech Republic.

Program committee member of ICAS 2018, the 14th International Conference on Autonomic and Autonomous Systems, Nice, France.

Program committee member of SOFTENG 2018, the 4th International Conference on Advances and Trends in Software Engineering, Athens, Greece.

Program committee member of ICSOFT 2018, the 13th International Conference on Software Technologies, Porto, Portugal.

Program committee member of ICT.OPEN 2018, the annual Conference for ICT-Research in the Netherlands, Amersfoort, The Netherlands.

Program committee member of AMMoRe 2018, the 1st International Workshop on Analytics and Mining of Model Repositories, Copenhagen, Denmark.

Program committee member of BENEVOL 2018, the 17th Belgian-Netherlands Software Evolution Workshop, Delft, Netherlands.

Reviewer of the ACM Transactions on Autonomous and Adaptive Systems (TAAS).

Reviewer of the international Journal of Systems and Software (JSS), Elsevier.

Reviewer of the IET Software journal.

Reviewer for the Rubicon NWO funding programme (Dutch national funding programme).

External Reviewer of ICSE 2018 (both Main and SEET tracks), the 40th International Conference on Software Engineering, Gothenburg, Sweden.

External Reviewer of ECSA 2018, 12th European Conference on Software Architecture, Madrid, Spain.

2017   *Workshop chair* of ICSA 2017, the 14th International Conference on Software Architecture (former WICSA/CompArch), Gothenburg, Sweden.

Publicity chair of MobileSoft 2017, the 4th IEEE/ACM International Conference on Mobile Software Engineering and Systems, Buenos Aires, Argentina.

Organizer of COMMitMDE 2017, 2nd International Workshop on Collaborative Modelling in MDE (co-located with MODELS 2017), Austin, USA.

Organizer of ModComp 2017, 4th International Workshop on Interplay between Model-Driven and Component-Based Software Engineering (co-located with MODELS 2017), Austin, USA.

Program committee member of ICSA 2017, the the 14th International Conference on Software Architecture (former WICSA/CompArch), Gothenburg, Sweden.

Program committee member of MobileSoft 2017, the 4th IEEE/ACM International Conference on Mobile Software Engineering and Systems, Buenos Aires, Argentina.

Program committee member of ICWE 2017, the 17th International Conference on Web Engineering (Demo track), Rome, Italy.

Program committee member of PROFES 2017, the 18th International Conference on Product-Focused Software Process Improvement (Short papers track), Innsbruck, Austria.

Program committee member of ICSOFT 2017, the 12th International Conference on Software Technologies, Madrid, Spain.

Program committee member of the ModelCyPhy track on Model-driven Engineering: Theory and Practice at the 14th International Conference on Information Technology: New Generations (ITNG 2017), Las Vegas, Nevada, USA.

Program committee member of AIMS 2017, the 6th IEEE International Conference on AI & Mobile Services, Honolulu, Hawaii, USA.

Program committee member of ISEC 2017, the 10th Innovations in Software Engineering Conference (Mobile Software Engineering track), Jaipur, India.

Program committee member of SOFTENG 2017, the 3rd International Conference on Advances and Trends in Software Engineering, Venice, Italy.

Program committee member of EnWoT 2017, the 1st International Workshop on Engineering the Web of Things (co-located with ICWE 2017), Rome, Italy.

Program committee member of UsARE 2017, the 4th International Workshop on Usability and Accessibility focused Requirements Engineering (co-located with RE 2017), Lisbon, Portugal.

Reviewer of the journal on Information and Software Technology (IST).

Reviewer of the IEEE Transactions on Intelligent Transportation Systems (ITS).

Reviewer of the international Journal of Systems and Software (JSS), Elsevier.

External Reviewer of ICSE 2017 (both Main and SEIP tracks), the 39th International Conference on Software Engineering, Buenos Aires, Argentina.

External Reviewer of ECSA 2017, 11th European Conference on Software Architecture, Canterbury, UK.

External Reviewer of ESOCC 2017, 6th European Conference on Service-Oriented and Cloud Computing, Oslo, Norway.

2016   *Workshop chair* and *program committee member* of ICT4S, the 4th International Conference on ICT for Sustainability, Amsterdam, The Netherlands.

Organizer of COMMitMDE 2016, 1st International Workshop on Collaborative Modelling in MDE (co-located with MODELS 2016), Saint-Malo, France.

Organizer of ModComp 2016, 3rd International Workshop on Interplay between Model-Driven and Component-Based Software Engineering (co-located with MODELS 2016), Saint-Malo, France.

Program committee member of WICSA and CompArch 2016, the 13th Working IEEE/IFIP Conference on Software Architecture & 10th Federated Conference Series on Component-Based Software Engineering and Software Architecture, Venice, Italy.

Program committee member of CBSE 2016, the 19th International ACM Sigsoft Symposium on Component-Based Software Engineering, Venice, Italy.

Program committee member of QoSA 2016, the 12th International ACM Sigsoft Conference on the Quality of Software Architectures, Venice, Italy.

Program committee member of MobileSoft 2016, the 3rd IEEE/ACM International Conference on Mobile Software Engineering and Systems, Austin, Texas, USA.

Program committee member of ICWE 2016, the 16th International Conference on Web Engineering (Demo track), Lugano, Switzerland.

Program committee member of IEEE MS 2016, the 5th International Conference on Mobile Services, San Francisco, USA.

Program committee member of FiCloud 2016, the 4th International Conference on Future Internet of Things and Cloud (Software Architecture and Middleware track), Vienna, Austria.

Program committee member of ICSOFT 2016, the 11th International Conference on Software Engineering and Applications, Lisbon, Portugal.

Program committee member of the ModelCyPhy track on Model-Driven Engineering for Cyber-Physical Systems at the 13th International Conference on Information Technology: New Generations (ITNG 2016), Las Vegas, Nevada, USA.

Program committee member of SOFTENG 2016, the 2nd International Conference on Advances and Trends in Software Engineering, Lisbon, Portugal.

Reviewer of the IEEE Transactions on Software Engineering (TSE).

Reviewer of the journal on Information and Software Technology (IST).

Reviewer of the Journal of Software: Evolution and Process (JSME), Wiley.

Reviewer of the international Journal of Systems and Software (JSS), Elsevier.

Reviewer of the Software and Systems Modeling (SoSyM) journal, Springer.

Reviewer of the Empirical Software Engineering (EMSE) journal, Springer.

Reviewer of the IET Software journal.

Reviewer of the international journal on Frontiers of Computer Science (FCS), Springer.

Reviewer of the Computer Languages, Systems and Structures (COMLAN) journal, Elsevier.

Reviewer for the Computer Science Discovery Grant of the Natural Sciences and Engineering Research Council of Canada (NSERC).

Reviewer for the IWT funding of industrial projects of the Flanders Innovation & Entrepreneurship (VLAIO).

External Reviewer of FSE 2016, 24th ACM SIGSOFT Symposium on the Foundations of Software Engineering, Seattle, WA, USA.

External Reviewer of iFM 2016, 12th International Conference on integrated Formal Methods, Reykjavik, Iceland.

2015   *Program committee member* of CSMS 2015, the 1st International Workshop on Cloud and Service Management and Simulation, Limassol, Cyprus.

Program committee member of IEEE MS 2015, the 4th International Conference on Mobile Services, New York, USA.

Program committee member of DeMobile 2015, the 3rd International Workshop on Software Development Lifecycle for Mobile, Bergamo, Italy.

Program committee member of WICSA 2015, the 12th Working IEEE/IFIP Conference on Software Architecture, Montreal, Canada.

Reviewer of the international Journal of Systems and Software (JSS), Elsevier.

Reviewer of the PeerJ Computer Science open access journal.

External reviewer of ASE 2015, 30th IEEE/ACM International Conference on Automated Software Engineering, Lincoln, Nebraska, USA.

External Reviewer of MODELS 2015, the 18th ACM/IEEE International Conference on Model Driven Engineering Languages and Systems, Ottawa, Canada.

External reviewer of MobileSoft 2015, the 2nd ACM International Conference on Mobile Software Engineering and Systems, Florence, Italy.

External reviewer of SERA 2015, the 13th International Conference on Software Engineering Research, Management and Applications, Hammamet, Tunisia.

Reviewer of the book "Mastering JavaScript" authored by Ben Fhala for Packt Publishing.

2014   *Program committee member* of EEEWSN 2014, the 1st International Workshop on Engineering Energy Efficient WSNs, Victoria, Canada.

Program committee member of LABEM 2014, the 1st International Workshop on lowering the adoption barrier of enterprise modelling, Geneva, Switzerland.

Reviewer of the Computer Science Review international journal (COSREV), Elsevier.

External Reviewer of FASE 2015, 17th International Conference on Fundamental Approaches to Software Engineering, London, UK.

External Reviewer of ICSE 2015, the 37th International Conference on Software Engineering, Firenze, Italy.

Reviewer of the international Journal of Systems and Software (JSS), Elsevier.

Reviewer of the IEEE Software magazine, special issue on Software Engineering for Internet Computing (SWSI).

External Reviewer of ASE 2014, 29th IEEE/ACM International Conference on Automated Software Engineering, Västerås, Sweden.

External Reviewer of ECSA 2014, 8th European Conference on Software Architecture, Vienna, Austria.

External Reviewer of the international journal on Empirical Software Engineering (EMSE), Springer.

External Reviewer of MODELS 2014, the 17th ACM/IEEE International Conference on Model Driven Engineering Languages and Systems, Valencia, Spain.

External Reviewer of CBSE 2014, the 17th International ACM Sigsoft Symposium on Component-Based Software Engineering, Lille, France.

External Reviewer of MobileSoft 2014, the 1st ACM International Conference on Mobile Software Engineering and Systems, Hyderabad, India.

External Reviewer of FormaliSE 2014, the 2nd FME Workshop on Formal Methods in Software Engineering, Hyderabad, India.

External Reviewer of GREENS 2014, the 3rd International Workshop on Green and Sustainable Software, Hyderabad, India.

External Reviewer of ISSTA 2014, the International Symposium on Software Testing and Analysis, San Jose, California, USA.

2013   *External Reviewer* of WICSA 2014, the 11th Working IEEE/IFIP Conference on Software Architecture, Sydney, Australia.

External Reviewer of ICSE 2014, the 36th International Conference on Software Engineering, Hyderabad, India.

Track committee member of ITNG 2014, 11th International Conference on Information Technology: New Generations. Special track on MDCBSE: Model-Driven, Component-Based Software Engineering, Las Vegas, Nevada, USA.

External Reviewer of itAIS 2013, 10th Conference of the Italian Chapter of AIS - Empowering society through digital innovations, Milan, Italy.

Reviewer of the book "Backbone.js Cookbook" authored by Vadim Mirgorod for Packt Publishing.

External Reviewer of ICSEA 2013, 8th International Conference on Software Engineering Advances, Venice, Italy.

Reviewer of the international Journal of Systems and Software (JSS), Elsevier.

External Reviewer of the Transactions On Software Engineering And Methodology (TOSEM), ACM.

External Reviewer of ECSA 2013, 7th European Conference on Software Architecture, Montpellier, France.

External Reviewer of SEAA 2013, 39th Euromicro Conference on Software Engineering and Advanced Applications, Santander, Spain.

Publicity chair of SERENE 2013, the 5th International Workshop on Software Engineering for Resilient Systems, Kyiv, Ukraine.

Program committee member of MOBS 2013, the 1st International Workshop on the Engineering of Mobile-Enabled Systems, San Francisco, California, USA.

Program committee member of IWCMC 2013, the 9th International Wireless Communications & Mobile Computing Conference, Cagliari, Italy.

Reviewer of the international journal of Science of Computer Programming (SCP), Elsevier.

External Reviewer of FASE 2013, 16th International Conference on Fundamental Approaches to Software Engineering, Rome, Italy.

External Reviewer of TACAS 2013, 19th International Conference on Tools and Algorithms for the Construction and Analysis of Systems, Rome, Italy.

2012   *External Reviewer* of FSE 2012, 20th ACM SIGSOFT Symposium on the Foundations of Software Engineering, Cary, North Carolina, USA.

Reviewer of the international Journal of Systems and Software (JSS), Elsevier.

External Reviewer of the international Journal Science of Computer Programming (SCP), Elsevier.

External Reviewer of the international Journal of Software Testing, Verification and Reliability (STVR), Wiley.

External Reviewer of WICSA/ECSA 2012, Joint Working IEEE/IFIP Conference on Software Architecture & European Conference on Software Architecture, Helsinki, Finland.

External Reviewer of AST 2012, 7th International Workshop on Automation of Software Test, Zurich, Switzerland.

External Reviewer of ICST 2012, 5th International Conference on Software Testing, Verification and Validation, Montreal, Canada.

2011   *External Reviewer* of the Journal of Systems and Software (JSS), Elsevier.

External Reviewer of ECSA 2011, 5th European Conference on Software Architecture, Essen, Germany.

External Reviewer of ESEC/FSE 2011, 8th joint meeting of the European Software Engineering Conference and the ACM SIGSOFT Symposium on the Foundations of Software Engineering, Szeged, Hungary.

External Reviewer of QSIC 2011, 11th International Conference On Quality Software, Madrid, Spain.

External Reviewer of the Software Engineering in Practice Track at ICSE 2011, the 33rd International Conference on Software Engineering, Honolulu, Hawaii, USA.

External Reviewer of the Software Testing, Verification and Reliability (STVR) Journal, Wiley InterScience.

2010   *External Reviewer* of ASE 2010, 25th IEEE/ACM International Conference on Automated Software Engineering, Antwerp, Belgium.

External Reviewer of CBSE 2010, 13th International Symposium on Component Based Software Engineering, Prague, Czech Republic.

External Reviewer of FSE 2010, 18th International Symposium on the Foundations of Software Engineering, Santa Fe, New Mexico, USA.

External Reviewer of ICSOFT 2010, 5th International Conference on Software and Data Technologies, Athens, Greece.

External Reviewer of ICST 2010, 3rd International Conference on Software Testing, Verification and Validation, Paris, France.

External Reviewer of MDI 2010, 1st Workshop on Model Driven Interoperability, Oslo, Norway.

External Reviewer of ACM SAC 2010, 25th Symposium On Applied Computing, Sierre, Switzerland.

External Reviewer of SERENE 2010, 2nd International Workshop on Software Engineering for Resilient Systems, London, UK.

External Reviewer of SHARK 2010, 5th Workshop on SHAring and Reusing architectural Knowledge, Cape Town, South Africa.

2009   *External Reviewer* of the Software and Systems Modeling (SoSyM) journal, Springer.

External Reviewer of CBSE 2009, 12th International Symposium on Component Based Software Engineering, East Stroudsburg, Pennsylvania, USA.

External Reviewer of ICSOFT 2009, 4th International Conference on Software and Data Technologies, Sofia, Bulgaria.

External Reviewer of ICST 2009, 2nd International Conference on Software Testing, Verification and Validation,Denver, Colorado , USA.

External Reviewer of WICSA/ECSA 2009, Joint Working IEEE/IFIP Conference on Software Architecture & European Conference on Software Architecture, Cambridge, UK.

Technical events organization

2015   *Member of the organization board* of the dotNet 2015, L'Aquila, Italy.

2014	*Member of the organization board* of the Google Developer Group event (GDG MeetsU 2014), the first Google Developer event organized in L'Aquila, supported by Google.
2013	*Organizer* of the HTML5 Frontend Development Workshop in L'aquila, sponsored by Smyrtle, Ikran, Master in Web Technologies (L'Aquila).
	Organizer of the Firefox OS Workshop 2013 in L'aquila, sponsored by the Mozilla Foundation.
	Member of the organization board of the Android University Hackathon (AUH 2013), the first inter-university hackathon in the world, sponsored by Google Italia.
2012	*Member of the organization board* of AQHackathon 2012, the first programming contest of the University of L'Aquila.
2010	Member of the *student volunteer* program of ECSA 2010, the 4th European Conference on Software Architecture.
	Member of the *student volunteer* program of ICSE 2010, the 32nd International Conference on Software Engineering.
2008	Member of the *supporting staff* of ASE 2008, the 23rd IEEE/ACM International Conference on Automated Software Engineering.

Given seminars and academic presentations

May 2023	"Automatic Extraction of Time-windowed ROS Computation Graphs from ROS Bag Files", at RSA 2023 workshop, co-located with ICRA 2023, London, UK.
May 2021	"Mining the ROS ecosystem for Green Architectural Tactics in Robotics and an Empirical Evaluation", at MSR 2021, Virtual.
July 2020	"How do you Architect your Robots? State of the Practice and Guidelines for ROS-based Systems", at ICSE 2020, Virtual.
May 2019	"Navigation-aware and Personalized Prefetching of Network Requests in Android Apps", at ICSE 2019 (NIER track), Montreal, Canada.
May 2019	"The quest for architectural tactics in open-source ROS systems", seminar at the Institute for Software Research, Carnegie Mellon University, Pittsburgh, USA.
November 2018	"Data-driven software engineering at VU", seminar at Software Improvement Group (`http://www.sig.nl`), Amsterdam, the Netherlands.
September 2018	"How Maintainability Issues of Android Apps Evolve" at ICSME 2018, Madrid, Spain.
June 2018	"Experimenting on Mobile Apps Quality - a tale about Energy and Performance" at ADS Coffee & Data: Sustainable Systems & Software Architectures, Amsterdam, The Netherlands.
May 2018	"Collaborative Model-Driven Software Engineering: a Classification Framework and a Research Map" at ICSE 2018 (journal first track), Gothenburg, Sweden.
March 2018	"Experimenting on Mobile Apps Quality - a tale about Energy, Performance, and Users' Perception" at ICTOpen 2018, Amersfoort, The Netherlands.
October 2017	"Mobile Apps quality - a tale about energy, performance, and users' perception", guest lecture at the Delft University of Technology (TUDelft), The Netherlands.

June 2017	"Are service workers draining my battery?", AmsterdamJS (first dedicated JavaScript conference in Amsterdam, partners: Microsoft, Google, Uber, Udacity), Amsterdam, The Netherlands.
May 2017	"Engineering the Software of Robotic Systems", technical briefing at ICSE 2017, Buenos Aires, Argentina.
May 2017	"Assessing the Impact of Service Workers on the Energy Efficiency of Progressive Web Apps" at MOBILESoft 2017, Buenos Aires, Argentina.
November 2016	"Mission Planning of Autonomous Quadrotors", seminar at the Department of Information Engineering, Computer Science and Mathematics, University of L'Aquila, Italy.
June 2016	"Leveraging Web Analytics for Automatically Generating Mobile Navigation Models" at Mobile Services 2016, San Francisco, California, USA.
May 2016	"Web-based Hybrid Mobile Apps: State of the Practice and Research Opportunities" at MobileSoft 2016, Austin, Texas, USA.
November 2015	"Enabling Non Expert Users to Model and Execute Self-Adaptable Missions of Autonomous Drones", seminar at MRTC Research Labs at Department of Computer Science and Electronics, Mälardalen University, Västerås, Sweden.
November 2015	"Enabling Non Expert Users to Model and Execute Self-Adaptable Missions of Autonomous Drones", seminar at the Department of Computer Science and Engineering, Chalmers University of Technology, Gothenburg, Sweden.
November 2015	"Enabling Non Expert Users to Model and Execute Self-Adaptable Missions of Autonomous Drones", seminar at the Department of Computer Science, Vrije University, Amsterdam, the Netherlands.
August 2015	"Automatically bridging UML profiles to MOF metamodels" at SEAA 2015, Funchal, Portugal.
June 2015	"End Users' Perception of Hybrid Mobile Apps in the Google Play Store" at Mobile Services 2015, New York, USA.
April 2015	"Speeding up mobile web apps" at Password: Open Source 2015, L'Aquila, Italy.
February 2015	"Cross-platform mobile apps with Apache Cordova" at dotNet day 2015, L'Aquila, Italy.
September 2014	"Mashups and web analytics to enhance, promote and improve tourism offers" at Tur.n 2.0 Project Summit, Pescara, Italy.
August 2014	"A Survey on the Specification of the Physical Environment of Wireless Sensor Networks" at SEAA 2014, Verona, Italy.
August 2014	"A Study on MDE Approaches for Engineering Wireless Sensor Networks" at SEAA 2014, Verona, Italy.
August 2014	"The road ahead for architectural languages" at ECSA 2014, Vienna, Austria.
July 2014	"A family of Domain-Specific Languages for specifying Civilian Missions of Multi-Robot Systems" at MORSE 2014, York, UK.
July 2014	"Guidelines for the technological development in the e-health application domain" at E-Health Technology Project Summit, Pescara, Italy.
May 2014	"Fast mobile web apps" at GDG MeetsU 2014, L'Aquila, Italy.
March 2014	"HTML5: the new frontier of the web" at Commit Software (http://www.commitsoftware.it), Florence, Italy.
January 2014	"The mobile ecosystem and technological strategies", seminar at WebRatio (http://www.webratio.com), Milano, Italy.

January 2014	"These mobile apps will let you totally rethink hybrid app development" at WebRatio (`http://www.webratio.com`), Milano, Italy.
January 2014	"Apache Cordova: APIs and instruments", seminar at WebRatio (`http://www.webratio.com`), Milano, Italy.
January 2014	"Developing maintainable Apache Cordova applications", seminar at WebRatio (`http://www.webratio.com`), Milano, Italy.
January 2014	"How to develop fast Apache Cordova applications", seminar at WebRatio (`http://www.webratio.com`), Milano, Italy.
November 2013	"Time.zip: developing an Android-iOS, smartphone-tablet app in one month" at HTML5 Frontend Development 2013, L'Aquila, Italy.
October 2013	"Engineering a Platform for Mission Planning of Autonomous and Resilient Quadrotors" at SERENE 2013, Kiev, Ukraine.
June 2013	"The mobile ecosystem & technological strategies" at Intecs SpA (`http://www.intecs.it/eng/`), IBM Business Partner, L'Aquila, Italy.
May 2013	"A4WSN: An Architecting environment for Wireless Sensor Networks", seminar at Scuola di Scienze e Tecnologie, University of Camerino, Camerino, Italy.
Jan 2013	"A4WSN: An Architecting environment for Wireless Sensor Networks", seminar at Computer Communications Department, Middlesex University, London, UK.
June 2012	"A Model-Driven Engineering Framework for Architecting and Analysing Wireless Sensor Networks" at SESENA 2012, Zurich, Switzerland.
May 2010	"A model-driven approach for managing software architectures with multiple evolving concerns" at ICSE 2010, Cape Town, South Africa.
May 2010	"Developing next generation ADLs through MDE technique" at ICSE 2010, Cape Town, South Africa.
June 2009	"Integrating AADL within a multi-domain modeling framework" at UML&AADL 2009, Potsdam, Germany.
May 2008	"DUALLY: a framework for Architectural Languages and Tools Interoperability", seminar at MRTC Research Labs at Department of Computer Science and Electronics, Mälardalen University, Västerås, Sweden.

Keynotes and invited talks

September 2023	"Empirical Research on Energy-Efficient Mobile Web Apps, Robotics Software, and Microservices", invited talk at the IPA Fall Days on Sustainable Software in Society, Zeewolde, The Netherlands.
June 2023	"Conducting Experiments on the Software Architecture of Robotic Systems", invited talk at the 2nd Workshop on Quality and Reliability Assessment of Robotic Software Architectures and Components *QRARSAC*, co-located with ICRA 2023, London, UK.
June 2022	"How to architect your ROS-based robot software", invited lecture at the *REMARO* summer school, Delft, The Netherlands.
June 2022	"Experimentation in Software Energy Efficiency", invited lecture at the *Green IT* summer school, Biarritz, France.
February 2022	"Energy-Efficient Software: Tools, Experiments, and Education", guest lecture at KTH, Stockholm, Sweden.
September 2021	"Designing and conducting experiments on energy-efficient software", invited lecture at the *Green Computing meets Green Energy* summer school, Lille, France.

June 2021	"How to bring Sustainability in your Organization - Green IT", invited presentation at IT Circle Nederland, Virtual.
April 2019	"Robot Software Architecture: All Your Practices are Belong to Us", keynote at the Knowledge Session on Software Architecture event at Centric (`http://www.centric.eu`), Gouda, the Netherlands.
May 2019	"Software sustainability and Green IT", keynote at the Green IT workshop, Amsterdam Gemeente, Amsterdam, the Netherlands.
April 2019	"Energy efficient mobile apps", invited presentation at the Knowledge and Innovation session at Centric (`http://www.centric.eu`), Gouda, the Netherlands.
November 2017	"Reconstructing microservice-based architectures", invited presentation at the 19th edition of the Landelijk Architectuur Congres, te's-Hertogenbosch, The Netherlands.
October 2016	"Beyond Native Apps: Web Technologies to the Rescue! (Keynote)", invited presentation at the 1st International Workshop on Mobile Development, co-located with the SPLASH 2016 conference, Amsterdam, The Netherlands.
April 2016	"The Road Ahead for Architectural Languages", invited presentation at the 3rd Architecture Centric Virtual Integration (ACVI) workshop, co-located with the WICSA 2016 conference, Venice, Italy.
Nov 2014	"Collaborative design and development of cross-platform mobile applications", invited presentation at MOBILEng International workshop, organized by IBM and co-located with the Complex Systems Design & Management academic-industrial conference (CDSM 2014), Paris, France.

Steering committee membership

Since 2020	European Conference on Software Architecture (ECSA)
Since 2019	IEEE/ACM International Conference on Mobile Software Engineering and Systems (MOBILESoft)

Research Projects

Green Tactics for Robotics Software

The project aims at developing new techniques to help roboticists to systematically develop energy-efficient robotics software.

Total contribution: 50k EUR

Period: 2020-2021

Funded by: NWO (the Dutch national funding agency), Open Competition Domain Science - XS

BUMBLE

The project aims at providing an innovative system and software development framework based on modeling through blended modeling notations/languages (e.g., textual and graphical). The framework provides semi-automatic generation and management of full-fledged blended modeling environments from arbitrary Domain-Specific Languages.

Total contribution: 11.4M EUR

Period: 2019-2022

Funded by: European Community, ITEA 3 Call 5, grant number 18006

uDEVOPS

The objective of the project is to form an international and inter-sectoral network of organisations working on a joint research programme in the field of software quality assurance for Microservice development operations engineering processes.

Total contribution: 750k EUR

Period: 2019-2023

Funded by: European Community, Horizon 2020 Framework Programme, call H2020-MSCA-RISE-2019

CRAFTERS

The project proposes a computing environment for many-core systems derived from vertical domains that will enable the evolution to horizontal domains by providing common methods, tools and reference platforms for embedded many-core applications.

Total contribution: 2.66M EUR

Period: 2012-2015

Funded by: European Community, ARTEMIS Call 2011 Project - Project Nr. 295371-ASP5: Computing environments for embedded systems

E-Health Technology

The objective of the project is to design and develop a solution in the cloud which is capable of delivering services related to the health-care domain by following the platform as a service (PaaS) paradigm.

Period: 2013-2015

Funded by: Abruzzo region (Italy), POR FESR 2007-2013 - Activity I.1.1.

Turn 2.0

The objective of the project is to build a new model of communication and marketing of the products of local tourism through the creation of a technological platform aimed at the development of activities of social networking.

Period: 2013-2014

Funded by: Abruzzo region (Italy), POR FESR 2007-2013 - Activity I.1.1.

ArtDeco

ArtDeco is a nationally funded long term research project (MiUR FIRB 2005, project code RBNE05C3AH). The project aims at developing techniques and methods for the diffusion of "networked enterprises" among the Italian Small and Medium Enterprises.

Period: 2005-2010

Funded by: Italian Ministry of Public Education, MiUR FIRB 2005

Other grants and fundings

2017	Winner of a research voucher "Science meets Business" by the Network Institute VU Amsterdam and the Innovation Exchange Amsterdam. Amount of the grant: 5,000 euro.
2016	Innovatie AIO research grant from the Computer Science department of the Vrije Universiteit Amsterdam for a PhD position on multidisciplinary research. Amount of the grant: 200,000 euro.
2014	Winner of the grant proposed by Fondazione Cassa di Risparmio della Provincia dell'Aquila for social utility and the promotion of economic development. Name of the proposed project: BusOnAir. Amount of the grant: 3,000 euro.
2012	Winner of the grant: "20 talenti per l'Italia", Working Capital 2012 of Telecom Italia. Name of the proposed project: FLYAQ (`http://www.flyaq.it`). The project have been selected among more than 800 applicants. Amount of the grant: 25,000 euro.

Teaching and supervision

Courses

Sep–Oct 2023	Green Lab (empirical software engineering for energy efficiency), Vrije Universiteit Amsterdam, 95 students, MSc level (full course - coordinator - 30h)
Feb–Mar 2023	Software design, Vrije Universiteit Amsterdam, 350 students, BSc level (full course - coordinator - 30h)
Sep–Oct 2022	Green Lab (empirical software engineering for energy efficiency), Vrije Universiteit Amsterdam, 90 students, MSc level (full course - coordinator - 30h)
Feb–Mar 2022	Software design, Vrije Universiteit Amsterdam, 250 students, BSc level (full course - coordinator - 30h)
Sep–Oct 2021	Green Lab (empirical software engineering for energy efficiency), Vrije Universiteit Amsterdam, 35 students, MSc level (full course - coordinator - 30h)
Sep–Oct 2021	Introduction to Computer Science, Vrije Universiteit Amsterdam, 36 students, BSc level (shared course - 6h)
Feb–Mar 2021	Software design, Vrije Universiteit Amsterdam, 200 students, BSc level (full course - coordinator - 30h)
Sep–Oct 2020	Green Lab (empirical software engineering for energy efficiency), Vrije Universiteit Amsterdam, 35 students, MSc level (full course - coordinator - 30h)
Sep–Oct 2020	Introduction to Computer Science, Vrije Universiteit Amsterdam, 36 students, BSc level (shared course - 6h)
Feb–Mar 2020	Software design, Vrije Universiteit Amsterdam, 160 students, BSc level (full course - coordinator - 30h)
Sep–Oct 2019	Green Lab (empirical software engineering for energy efficiency), Vrije Universiteit Amsterdam, 30 students, MSc level (full course - coordinator - 30h)
Feb–Mar 2019	Software design, Vrije Universiteit Amsterdam, 160 students, BSc level (full course - coordinator - 30h)
Mar 2019	Bachelor project Information, Multimedia and Management, Vrije Universiteit Amsterdam, 50 students, BSc level (shared course - 2h)
Sep–Oct 2018	Green Lab (empirical software engineering for energy efficiency), Vrije Universiteit Amsterdam, 20 students, MSc level (full course - coordinator - 30h)
Sep–Oct 2018	Introduction to Information, Multimedia and Management, Vrije Universiteit Amsterdam, 15 students, BSc level (shared course - 14h)

Feb–Mar 2018	Software design, Vrije Universiteit Amsterdam, 120 students, BSc level (full course - coordinator - 30h)
Nov 2017	Software systems and services, immigration course, Gran Sasso Science Institute, 8 students, PhD level (shared course - coordinator - 10h)
Sep–Oct 2017	Green Lab (empirical software engineering for energy efficiency), Vrije Universiteit Amsterdam, 20 students, MSc level (full course - coordinator - 30h)
Feb–Mar 2017	Software modelling, Vrije Universiteit Amsterdam, 80 students, BSc level (full course - coordinator - 30h)
Nov 2016	Software systems and services, immigration course, Gran Sasso Science Institute, 10 students, PhD level (shared course - coordinator - 12h)
Sep–Oct 2016	Green Lab (empirical software engineering for energy efficiency), Vrije Universiteit Amsterdam, 15 students, MSc level (shared course - 20h)
Sep–Oct 2016	Introduction to Information, Multimedia and Management, Vrije Universiteit Amsterdam, 15 students, BSc level (shared course - coordinator - 8h)
Mar–Jun 2016	Mobile Applications Development, University of L'Aquila, 70 students, BSc and MSc levels (full course - coordinator - 60h)
Oct–Dec 2015	Software systems and services, immigration course, Gran Sasso Science Institute, 10 students, PhD level (shared course - coordinator - 18h)
Jul 2015	Mobile Computing, Master of Science in Web Technologies - University of L'Aquila, 25 students, MSc level (full course - coordinator - 28h)
Mar–Jun 2015	Mobile Applications Development, University of L'Aquila, 50 students, BSc and MSc levels (full course - coordinator - 60h)
Oct–Dec 2014	Software systems and services, immigration course, Gran Sasso Science Institute, 10 students, PhD level (shared course - coordinator - 14h)
Nov 2014	Advanced Software Engineering, guest lecture, University of L'Aquila, 25 students, MSc level (guest lecturer - 2h)
Nov 2014	Embedded Systems, guest lecture, University of L'Aquila, 15 students, BSc and MSc levels (guest lecturer - 2h)
May–Jul 2014	Mobile Computing, Master of Science in Web Technology, University of L'Aquila, 30 students, MSc (full course - coordinator - 40h)
Mar–Jun 2014	Mobile Applications Development, University of L'Aquila, 30 students, BSc and MSc levels (full course - coordinator - 60h)
Oct 2013	Advanced Software Engineering, University of L'Aquila, 25 students, MSc level (guest lecturer - 6h)
Mar–Jun 2013	Mobile Applications Development, University of L'Aquila, 70 students, BSc and MSc levels (full course - coordinator - 60h)
Jan 2013	Databases, guest lecture, University of L'Aquila, 40 students, BSc level (guest lecturer - 2h)
Oct–Dec 2012	Advanced Software Engineering, University of L'Aquila, 20 students, MSc level (guest lecturer - 8h)
Mar–Jun 2012	Mobile Applications Development, University of L'Aquila, 100 students, BSc and MSc levels (full course - coordinator - 60h)
Mar–Apr 2011	Analysis and Testing of Component-based Systems, University of L'Aquila, 25 students, MSc level (guest lecturer - 6h)

Oct–Nov 2009	Advanced Software Engineering, University of L'Aquila, 25 students, MSc level (guest lecturer - 6h)
Nov 2008	Advanced Software Engineering, University of L'Aquila, 25 students, MSc (guest lecturer - 2h)

Post-doc researchers supervision

Mar 2021 – Apr 2023	**Kousar Aslam**, Collaborative Model-Driven Engineering.
Nov 2020 – Feb 2021	**Istvan David**, Collaborative Model-Driven Engineering.

PhD students supervision

Eoin Grua, " The Future of E-Health is Mobile: Combining AI and Self-adaptation to create adaptive e-Health mobile applications".

Role: formal co-promotor

In collaboration with: Patricia Lago, Guszti Eiben, Mark Hoogendoorn (Vrije Universiteit Amsterdam, The Netherlands)

Graduation time: December 2021

Roberto Verdecchia, "Architectural Technical Debt: Identification and Management".

Role: formal co-promotor

In collaboration with: Patricia Lago (Vrije Universiteit Amsterdam, The Netherlands)

Graduation time: September 2021

Teerath Das, "Mining Performance Issues In Mobile Apps".

Role: formal co-promotor

In collaboration with: Massimiliano Di Penta (University of Sannio, Italy)

Graduation time: May 2020

Gian Luca Scoccia, "Enhancing Trustability of Android Applications via Flexible Permissions".

Role: formal co-promotor

In collaboration with: Paola Inverardi and Marco Autili (University of L'Aquila, Italy)

Graduation time: July 2019

Mirco Franzago, "Collaborative Modelling of Data-Intensive Mobile Applications".

Role: formal co-promotor

In collaboration with: Henry Muccini (University of L'Aquila, Italy)

Graduation time: May 2018

Darko Bozhinoski, "Managing safety and adaptability in Mobile Multi-Robot Systems".

Role: formal co-promotor

In collaboration with: Patrizio Pelliccione (Chalmers University of Technology, Sweden)

Graduation time: December 2017

Stefano Ruberto, "Semantic genetic programming exploiting error space structures".

Role: advisor

In collaboration with: Leonardo Vanneschi (Universidade Nova de Lisboa, Portugal)

Graduation time: November 2017

Yuriy Zachia Lun, *"Stability and Optimal Control of Polytopic Time-Inhomogeneous Markov Jump Linear Systems"*.

Role: advisor

In collaboration with: Mariadomenica Di Benedetto and Alessandro D'Innocenzo (University of L'Aquila, Italy)

Graduation time: October 2017

Master thesis supervision

2023   Christos Petalotis, *A First Investigation Into the Detection of Energy-related Issues in Microservice-based Systems via Anomaly Detection and Root-Cause Analysis*.

Luka Krumpak, *Applying Anomaly Detection and Root-Cause Analysis Techniques on Performance Metrics for Detecting Energy Anomalies on Microservice-based Systems*.

Ander Eguiluz Castaneira, *An independent assessment and improvement of the Digital Environmental Footprint formulas for server-side software*.

Srishti Nigam, *Energy Consumption and Performance of Autonomous Robot Applications using Knowledge Representation*.

Zeyang Zhang, *An Evaluation of Eclipse GLSP as a Platform for Real-Time Collaborative Modeling*.

Zhaolin Fang, *On the Interplay of Synchronous and Asynchronous Collaborative Modeling*.

2022   Ankur Anmol, *An Exploratory Study on Trusted Web Activities in Top Android Apps*.

Madalina Dinga, *An Empirical Evaluation of the Energy and Performance Overhead of Monitoring Tools on Docker-based Systems*.

Kwame Chan-Jong-Chu, *A study on the resource utilisation of SLAM algorithms on simulated and real-world ROS systems*.

Jesse van den Ende, *An Observational study on the State of the Practice on Progressive Web Apps*.

Raluca Maria Hampau, *An empirical study on the performance and energy consumption of AI containerization strategies on the Edge*.

2021   Engel Hamer, *Resource Utilisation of 2D SLAM Algorithms in ROS-Based Systems: an Empirical Evaluation*.

Milica Dordevic, *Empirical Evaluation of Computation Offloading Strategies in Robotic Systems*.

Noah Voogd, *Collaborative Modeling across Jetbrains MPS and Eclipse Spoofax*.

Omar de Munk, *The Impact of Resource Preloading and Resource Hints on the Energy Consumption and Performance of Mobile Web Apps*.

Marc Wiggermann, *Empirical analysis of the Cognitive Complexity Metric and its relation with other Software Metrics*.

Sander Ronde, *Migrating Angular-based web apps to Web Components - A case study at 30MHz*.

2020   Kaveh Ali Karam Soltany, *Assessing the run-time impact of statically-detectable performance issues of Android apps*.

Stan Swanborn, *An Empirical Evaluation of Energy-Efficient Architectural Tactics in Robotics Software*.

Wesley Fu-En Geniz Shann, *Prefetching Network Requests in Android Apps: Strategies and Empirical Evaluation*.

Katerina Chinnappan, *Mining Green Tactics For Energy-Efficient And Energy-Aware Robotics Software*.

Khalil Suhail Khalil Mayyasi, *An Empirical Study on the Run-time Impact of JavaScript Dead Code*.

Jasper van Riet, *From 8,011ms to 4,145ms. An Industrial Case Study on Web Performance*.

Ali Ameer, *Microfrontends: Bringing microservices to the Web frontend*.

Michael Peters, *An In-depth Study on the Migration to Kotlin in Android Applications*.

2019   Randy de Vries, *Redesigning an Android experimentation framework for extensibility and testability*.

Tanjina Islam, *Analysis-oriented Architecture Reconstruction of Android Applications*.

Christian Valladares, *Enhancing and Assessing a Prefetching Technique for Android apps*.

Miguel Morales Exposito, *An information sharing system based on distributed ledger technology*.

Ibrahim Kanj, *Leave my Apps Alone: A Study of the Uses of Installed Applications Methods*.

Kishan Nirghin, *Dead Code Identification, Elimination, and Assessment*.

Ali Nikouei, *An Observational Study on the Usage of Client-Side Storage APIs in HTML5 Web Applications*.

Ahmad Yasir Moosavi, *Exploring the effects of using different HTML5 local storage strategies on the energy consumption and performance of Web applications*.

2018   Sangam Gupta, *Analysing Android testing techniques using the navigation flow*.

Mike Trieu, *An In-depth Empirical Study of Android Broadcast Receivers*.

Hui Chen, *A Cross-Store Study on Performance-Related Commits in Mobile Applications*.

Franz-Xaver Geiger, *AndroidTimeMachine: A Graph-based Dataset of Commit History of Real-World Android Apps*.

2017   Niels Groot Obbink, *Taming the Challenges of JavaScript Dead Code Elimination by Combining Static and Dynamic Analysis*.

Bojan Filipovic, *Maintainability Evolution of Open-source Android applications*.

Amaka Atoyebi, *Exploring how location-awareness is realized in Android mobile apps*.

Giona Granchelli, *Architecture Recovery of Microservice-based Systems*.

Mario Cardarelli, *Agility of Microservice Architectures: a Metrics-based Approach*.

2016   Andrea Salini, *Leveraging Web Analytics for Automatically Generating Mobile Navigation Models*.

Valter Papile, *Ingegnerizzazione di sistemi informativi per trasposto pubblico: real-time tracking, responsive web, and open-data*.

2015   Giulio Cattivera, *Model-Driven Engineering for Mobile Robotic Systems: a Systematic Mapping Study*.

Giuseppina Casalaro, *Model-Driven Engineering for Mobile Robotic Systems: a Systematic Mapping Study*.

Stefano Maglione, *Sviluppo di un'applicazione web per la visualizzazione e manipolazione di costruzioni geometriche*.

Federico Cicerone, *Automatic synthesis of data-intensive mobile apps via MDE techniques*.

2014   Lorenzo Sfarra, *Real-time monitoring and delay management of a transport information system*.

Gian Luca Scoccia, *Analisi e sviluppo di un framework per la UI design di applicazioni per dispositivi mobili*.

Andrea Loddo, *Accessing Web services from mobile clients - Copernica on mobile devices*.

Roberto Gagliardi, *Realizzazione di un'applicazione Web per la visualizzazione in tempo reale dei dati di telemetria di quadrotori autonomi*.

Alessandra Di Sario, *FLYAQ-Parrot: sviluppo dinun controller remoto per istruire flotte di quadrotori autonomi*.

Valentina Giffi, *Realizzazione di un'infrastruttura basata su OpenXC, Cordova e tecnologie Web per la diagnostica in tempo reale in ambito automotive*.

2013   Kristina Stefanova, *Design and development of a mobile mashup application for geo-localized news visualization*.

2012   Juri Di Rocco, *Aspetti di tracciabilita' e round-tripping in rappresentazioni indipendenti da sintassi*.

Michele Rastelli, *BusOnAir - Un sistema informativo per trasporti pubblici: modelli, algoritmi e tecnologie*.

Fabrizio Di Giuseppe, *Generazione automatica di codice per la stima della life-time di una Wireless Sensor Network con Omnet++*.

2010   Genny Bitondo, *Integrazione di AADL in un framework di modellazione multi-dominio"*. MSc

Marco Sebastiani, *Development of an automatic bridge between UML profiles and EMF metamodels"*. MSc

Bachelor thesis supervision

2023   Giovanni Fernando, *Measuring the Energy Consumption of Docker-based Microservices via Hardware and Software Profilers*.

Gabriela Alexandru, *Assessing CPU Energy as Proxy for Machine Energy Consumption in Containerized Applications*.

Muhammad butt, *Cross-Platform Real-Time Collaborative Modeling: A prototype Implementation for JetBrains MPS*.

2022   Zhuojun Chen, *Design and development of a tool for the static extraction of the computation graph of ROS2 robotic systems*.

Ivan Ivanov, *CO2 and The Internet: a quantitative study on the environmental impact of the top Web sites in the world*.

Yu Chen, *Development of a front-end for an inventory of models for real-time collaborative modeling.*

Tom Borger, *The impact of Jetpack Compose on the run-time efficiency of Android applications.*

Karl Plagemann, *Assessing the Energy Consumption of ROS Topics.*

2021 Etienne Herbeaux, *Benchmarking SLAM Algorithms in ROS-based Systems.*

Joe Hopkinson, *Benchmarking Path Coverage Algorithms in ROS- based Systems.*

Sebastian Ospina, *Implementation of an extensible and maintainable tool for measuring the architectural technical debt of software-intensive systems.*

Salvatore Lombardi, *Dead code JavaScript e valutazione del suo impatto su applicazioni web mobile.*

2020 Eric Zielinski, *Integration of the Monsoon Power Monitor into a Framework for Orchestrating Experiments on Android Applications.*

Luuk Kaandorp, *Benchmarking the Energy Measurement Accuracy of the Android Runner Framework.*

Mohammad Vakili, *ArchiDroid: Automated Android App Architecture Reconstruction.*

2019 Frederik Bonfanti, *Technology Considerations and Design of a Web Application for Training and Surveying Software Developers.*

Maria Sanchez Pineiro, *App Reviews Analysis with Machine Learning.*

Jakob Kiselica, *Graphical User Interface for User Review Analysis using Machine Learning.*

Geert de Pont, *A web-based catalogue of guidelines and examples for architecting Android apps.*

Ted Asiamah, *End users' perception of Android run-time permissions in React Native apps.*

2018 Vasco van Meekeren, *Mining testing artifacts for Android applications.*

Bob van den Berg, *Mining GitHub repositories for analyzing the evolution of statically-detectable bugs.*

Christopher Ras, *A study on the evolution of resource leaks in Android and iOS apps.*

Danny Meeuwsen, *Automatically mining open-source iOS applications.*

Kim Hoa Tan, *Integration of Android battery statistics into a Python framework for Green experiments.*

Adhivira Putra Theodorus, *Development of synthetic Android applications for Energy efficiency benchmarking.*

2017 Cheng-yu Lam, *A Python framework for automating experiments on Android.*

Lorenzo Di Cola, *Estensione di un framework open-source per App mobili cross-platform modulari ed efficienti.*

2016 Valentina Di Cristofaro, *Design e sviluppo di un'applicazione web per la consultazione, ricerca e inserimento di app mobili di tipo ibrido.*

Silvio Calcagni, *Dai database relazionali ai database NoSQL.*

2015 Francesco Ioannone, *Prenotazione e-ticket per dispositivi mobili: progetto e sviluppo di un prototipo.*

Gabriele Martini, *Identificazione automatica di app mobile ibride e i relativi framework di sviluppo.*

Matteo Giannangeli, *Sviluppo dell'app di CARE-me in ambiente Android*.

2014 Guerino Marcozzi, *Analisi automatica del Bytecode di applicazioni Android*.

Luca Traini, *Design e sviluppo di un'app mobile in un progetto industriale nel dominio eHealth*.

Alessio Felicioni, *Progettazione e sviluppo cross-platform din un'app mobile di messaggistica multi-modale*.

Giovanni Lima, *Realizzazione di un benchmark di valutazione al fine di comparare Phone-Gap e Android nativo*.

Michele Spaziani, *Applicazioni mobile come controller per l'interazione con smart TV attraverso Web socket*.

Sergio De Bei, *Design e sviluppo di un'applicazione Web per la visualizzazione e ricerca di informazioni su servizi di trasporto pubblico*.

Simone Durante, *GOTCHA! Un'app di alternate reality game*.

Tiziano Lombardi, *Un'applicazione Web per la specifica di missioni di monitoraggio ambientale mediante droni autonomi*.

2013 Stefano Di Biase, *Design e sviluppo di un Puzzle Game con meccaniche RPG su piattaforma mobile*.

Silvio D'Orazio, *Design e sviluppo di una Web application per smart TV. Un caso di studio in ambito accademico*.

Matteo Blasioli, *Sviluppo di un'applicazione mobile per il censimento di oggetti relativi alle problematiche di illuminazione pubblica*.

Matteo Comignani, *Sviluppo di un back-end RESTful di un'applicazione mobile per il censimento di oggetti relativi alle problematiche di illuminazione pubblica*.

Manuel Dell'Elce, *Backbone Debugger: estendere Chrome per il debugging di applicazioni web basate su Backbone*.

Giorgio Lattanzi, *Realizzazione di un'applicazione mobile per la raccolta, divulgazione e preservazione del patrimonio dialettale italiano*.

Davide Nespoli, *Development of a code generator engine from A4WSN models to Castalia simulation scripts*.

Mirco Franzago, *Engineering the navigation design of mobile applications: a dedicated modeling framework*.

Giona Granchelli, *Controllo Automatizzato di quadrorotori e grado di automazione raggiungibile*.

Francesco Palumbo, *AQMeter: un esperimento di collaborazione sociale per la stima dello stato di ricostruzione della città dell'aquila*.

Daniele Corvaglia, *Integrazione di tecniche di gamification in applicazioni mobile di tipo radiofonico*.

Andrea Iafrate, *Sviluppo di un layer di sicurezza per un'applicazione di Social-Shopping basata su servizi RESTful*.

Simone Battistelli, *Design e sviluppo di un'applicazione mobile per percorsi turistici, tour di trekking e passeggiate in montagna*.

Luca Scipioni, *Eventz: Un'applicazione mobile per il social discovery di eventi geolocalizzati*.

2012 Giampiero Di Paolo, *Uso di Twitter e Github per analizzare la correlazione tra umore e produttivita' nello sviluppo di progetti open source*.

Dario Mazzelli, *Analisi degli approcci Model-Driven per la progettazione di Wireless Sensor Networks*.

Vincenzo Buccardo, *Analisi e sviluppo di un back-end RESTful per un'applicazione di Social-Shopping*.

Simone Monaco, *Analisi e sviluppo di un'applicazione mobile per il trasporto urbano*.

2011   Lorenzo Salvatore, *Progettazione e Realizzazione di un editor grafico per l'environment di una Wireless Sensor Network*.

2010   Marco Parlati, *Realizzazione di un editor grafico di modellazione architetturale utilizzando GMF ed Eugenia*.

2009   Fabrizio Di Giuseppe, *DUALLyzzazione ArchiTrio: definizione di regole di trasformazione per modelli architetturali*.

Gianluca Croce, *DUALLyzzazione AADL: definizione di regole di trasformazione per modelli architetturali*.

Sara Panella, *DUALLyzzazione ArchStudio: definizione di regole di trasformazione per modelli architetturali*.

Guido Barcaroli, *DUALLyzzazione KLAPER: definizione di regole di trasformazione per modelli architetturali*.

Awards and scholarships

2023   Distinguished Reviewer Award at ICSA 2023.

2022   SoSyM-first paper award at MODELS 2022 for the paper titled "Blended Modeling in Commercial and Open-source Model-Driven Software Engineering Tools: A Systematic Study".

2022   Best paper award of the Journal of Systems and Software (JSS) for the paper titled "Building and evaluating a theory of architectural technical debt in software-intensive systems".

2021   Distinguished paper award at SCAM 2021 for the paper titled "How does Migrating to Kotlin Impact the Run-time Efficiency of Android Apps?".

2020   Best paper award at MOBILESoft 2020 for the paper titled "Leave my Apps Alone! A Study on how Android Developers Access Installed Apps on User's Device".

2017   Distinguished paper award at MOBILESoft 2017 for the paper titled "Assessing the Impact of Service Workers on the Energy Efficiency of Progressive Web Apps".

2017   Outstanding reviewer for the international journal on "Information and Software Technology", Elsevier.

2017   Nomination for best paper award at ICSA 2017 for the paper titled "Research on Architecting Microservices: Trends, Focus, and Potential for Industrial Adoption".

2014   Finalist of "White Information 2014", the most important event for industries and companies of the central area of Italy. Name of the proposed project: Musicatch.

2013   Finalist of the 2013 edition of "Innovact", the European forum for innovative start-ups. Name of the proposed project: FLYAQ.

2013   Finalist of "White Information 2013", the most important event for industries and companies of the central area of Italy. Name of the proposed project: Abruzzo Travel Book.

2013   Finalist of the "Mob App Awards Roma 2013", as one of the most innovative consumer apps of the central area of Italy. Name of the proposed project: Abruzzo Travel Book.

2012 Selected for participation to EUHackathon, the second hackathon event within the premises of the European Institutions. Main sponsors: Google, Facebook, Orange, Vodafone.

2011 Selected for participation to EUHackathon, the first hackathon event within the premises of the European Institutions. Main sponsors: Google and Skype.

2011 1st prize (as Team Leader) in the Business Plan Competition 2010/2011 organized by the Technology transfer, patents, spin-offs office of the University of L'Aquila (Italy). Name of the proposed project: BusOnAir (`http://www.busonair.eu`).

2010 ACM Student Research Competition (SRC) Travel Award. The work proposed in this competition is titled: "Providing support for creating next generation software architecture languages".

2007 "Homo Sapiens Sapiens" scholarship for university and professional education. Promoted by the National Institute of Social Security and Welfare of Italy.

2006 "Homo Sapiens Sapiens" scholarship for university and professional education. Promoted by the National Institute of Social Security and Welfare of Italy.

2005 "Homo Sapiens Sapiens" scholarship for university and professional education. Promoted by the National Institute of Social Security and Welfare of Italy.

2005 Annual scholarship for students with the highest score and with no delays in their study plan. Promoted by Micron Technology inc.

2004 Annual scholarship for students with the highest score and with no delays in their study plan. Promoted by Micron Technology inc.