Juri Di Rocco

Curriculum Vitae et Studiorum

Dipartimento di Ingegneria e Scienze dell'Informazione e Matematica - Università degli Studi dell'Aquila

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Short Bio

Dr. Juri Di Rocco was born on 15/02/1984 in Pescara (PE). In 2012, he got the master's degree in computer science at the University degli studi dell'Aquila. Juri obtained a PhD in Computer Science from the Università degli Studi dell'Aquila (Italy) in 2017 under the supervision of Prof. Alfonso Pierantonio and Prof. Davide Di Ruscio (co-advisor). He is now a postdoctoral researcher in the Department of Information Engineering, Computer Science and Mathematics (DISIM) of Università degli Studi dell'Aquila.

His research interests include both the practical and foundational aspects of Software Engineering, Model-Driven Engineering, Mining Software Repositories, and Recommender Systems.

Advanced techniques, including metamodeling, domain-specific modeling, and megamodeling, have been devised for defining model management operations, such as model differencing, conflict management, coupled evolution, repository clustering and classification, and quality analysis. Recently, he has been investigating recommender systems for mining open-source code repositories. Providing developers with useful suggestions, e.g., additional third-party libraries, code documentation about how to use the APIs being adopted, or relevant API function calls, can be crucial for enhancing quality factors and cost-effective software development. To this end, Juri conceived different recommender systems associated with domain-specific modeling environments in the context of Model-Driven Engineering. Thus, approaches for the generative development of modeling assistants have been defined together with several clustering and classification techniques to underpin knowledge elicitation from artifact repositories.

Juri is an author of over 50 papers in international journals, conferences, and workshops in these topics. He has been a reviewer for many journals such as IEEE Transactions on Software Engineering, Empirical Software Engineering Journal, Software and Systems Modeling, Institution of Engineering and Technology journal, Journal of Systems and Software. He has served in the organizing and program committees of different international events, including WEARS, DATA4MDE, MOSC, ME, SLE (artifact-evaluation), MoDELS (tool demonstration track), FlexMDE, AMMoRe, WEBIST, COMMit-MDE, LowCODE.

Since 2013 Juri has been working on national and international research projects, contributing to the application of his research skills to the development of tools in various application domains, including service-based software systems, mining of open-source systems, recommender systems for software engineering, and modeling hybrid polystore systems. Juri actively participated in the OSSMETER EU FP7, EU H2020 CROSSMINER, and the EU H2020 TYPHON European projects.

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1 BIOGRAPHIC NOTES

From April 2017: Post-doctoral researcher at Università degli Studi dell'Aquila.
Research areas: Software Engineering, Model-Driven Engineering, Recommendation Systems for Software Engineering, Mining Software Repositories.

April 2017: PhD in Computer Science, Università degli Studi dell'Aquila.
Thesis: "*A model-as-a-service framework for multi-perspective mining of collaborative modelling repositories.*"
Supervisors: Prof. Alfonso Pierantonio, Dr. Davide Di Ruscio.
Commission: Francesco Parisi-Presicce, Paolo Bottoni, and Vincenzo Grassi

from November 2015 to December 2015: Visit period at the MISO group (www.miso.es) of Universidad Autónoma de Madrid (Spain).
During his visit, Juri collaborated with Prof. Dr. Juan De Lara and his group on two main topics: *i)* automated testing and static analysis of ATL transformations [D3]; *ii)* reusing model transformations through typing Requirements Models [C12, J11], (http://miso.es/people.html).

December 2012: admitted to the PhD course in "Engineering and Computer Science" (XXVIII cycle) fellow the Department of Information Engineering, Computer Science and Mathematics.

October 2012: Master Degree in Computer Science, Università degli Studi dell'Aquila, Italy.
Thesis: "*Aspetti di tracciabilità e round-tripping in rappresentazioni indipendenti da sintassi.*"
Supervisors: Prof. Alfonso Pierantonio, Dr. Ludovico Iovino.
Final mark: 110/100 "*cum laude*."

July 2007: Bachelor degree in Computer Science, Università degli Studi dell'Aquila, Italy.
Thesis: "*Strumenti avanzati per la visualizzazione di algoritmi su grafi.*"
Supervisor Dr. Luca Forlizzi.
Final mark 108/100.

July 2003: Diploma di maturità (high-school degree), "ITIS" L. di Savoia, Chieti (Italy), Perito informatico.
Final mark: 95/100.

3 RESEARCH AREAS AND SKILLS

3.1 MODEL-DRIVEN ENGINEERING

Coupled evolution

Model-Driven engineering bases a wide range of artifacts on metamodels, including models, transformations, textual and graphical editors, code generators and also other related metamodels, giving place to a modeling ecosystem. When such metamodels evolve, underlying artifacts often become invalid. Therefore, whenever a metamodel undergoes modifications, all the related artifacts must be consistently adapted, giving a coupled evolution scenario. Managing the coupled evolution of modeling artifacts is challenging, and several approaches have been proposed during his career [C8, W10, W25, W24, W25].

Model management and analytics

In his PhD thesis, Juri proposed advanced mechanisms to enforce consistent reuse and leverage the interdependencies of the modeling artifacts produced and consumed during the different development phases [T1]. This necessity has led to the emergence of model repositories that enable collaborative modeling and let team members check out, commit, and update software models [J13, W15]. In this context, MDEForge [D3, W19] is proposed as an extensible cloud-based modeling platform supporting a community-based modeling repository. MDEForge enables the definition of model management tools as software-as-a-service (SaaS) that has facilitated the experimental evaluation of the many model management approaches, including the following:

- Automated classification of the repository. Manual classification methods of metamodel repositories require highly trained personnel and the results are usually influenced by the subjectivity of human perception. Thus, automated metamodel classification is very desirable and stringent. In [C14, D4], clustering techniques for metamodel repositories to automatically organize metamodels into clusters are proposed. More recently, in [J1, J6, C7], several machine-learning approaches have been investigated to classify modeling artifacts.
- Model measurements. Because the metamodel is the key artifact in the MDE ecosystems, understanding the common characteristics of metamodels, how they evolve, and what is the impact of metamodel changes throughout the modeling ecosystem is of high relevance. In [W20], an approach to understanding the structural characteristics of metamodels is presented. Furthermore, the analysis has been extended to transformations [W16] to identify to what extent their characteristics depend on the corresponding input and target metamodels.
- Modeling artifact quality. Giving a precise definition of quality models, identifying which quality attributes are of interest for specific stakeholders, can be useful for characterizing artifacts stored in a repository. Thus, custom quality models consisting of hierarchically organized quality attributes whose evaluation depends on the metrics described above are defined. In [J12, C14] a domain-specific language is proposed to specify how quality attributes and metrics have to be aligned. An execution environment is also provided to apply the defined quality models on actual modeling artifacts to enable their automated quality assessment.
- Promoting the reuse of modeling artifacts. MDE projects may use various MDE technologies (e.g., for model transformation, model comparison, or model/code generation) and thus, contain various MDE artifacts (such as models, metamodels, and model transformations). In [J5, C10], a megamodel-based reverse engineering methodology is proposed for recovering relations among

artifacts belonging to heterogenous MDE technologies in unstructured projects. Furthermore, new megamodeling relations can be identified by advanced techniques. In [C12, J11], TOTEM is proposed as an approach for reusing a model transformation with other metamodels by the typing requirements model (TRM). A TRM describes the prerequisites that a model transformation imposes on the source and target metamodels to obtain a correct typing. The key observation is that any metamodel pair that satisfies the TRM is a valid reuse context for the transformation at hand. Finally, two light-weighted approaches [W1, W10] are proposed to search modeling artifacts in modeling repositories.

Modeling assistant

Model-Driven Engineering has been widely applied in software development to facilitate coordination among various stakeholders. Such a methodology allows for a more efficient and effective development process. Nevertheless, modeling is a strenuous activity that requires proper knowledge of components, attributes, and logic to reach the level of abstraction needed for the application domain. In such a context, MORGAN [C3] is presented as a recommender system based on a graph neural network (GNN) to assist modelers in performing the specification of both metamodels and models. Our study has been awarded the *best foundation paper at MoDELS 2021*.

3.2 Mining Software Repositories and Recommender Systems

Open-source software (OSS) forges contain rich data sources helpful in supporting development activities. Several techniques and tools have been promoted to provide open-source developers with innovative features, aiming to improve development effort, cost savings, and developer productivity. In the context of the EU H2020 CROSSMINER project, a set of recommendation systems has been conceptualized to assist software programmers in different phases of the development process. In [J4], we describe the challenges we had to deal with as well as the related lessons learned when developing and evaluating the recommendation systems that have been conceived in the context of the CROSSMINER project. The conceived platform provides different recommender systems, including the following:

Recommending third-party libraries. When creating a new software system, or when evolving an existing one, developers do not reinvent the wheel but, rather, seek available libraries that suit their purpose. In [J9], CrossRec is proposed as a recommender system to assist open-source software developers in selecting suitable third-party libraries. CrossRec exploits a collaborative filtering technique to recommend libraries to developers by relying on the set of dependencies, e.g., library dependencies. Our study has been awarded two rewards, i.e., *best and diamond paper of JSS 2020*. More recently, in [C1], an approach to handle explicit user feedback, including positive, negative, and additive, is presented. Thus, further than accepting or discarding the recommended third-party libraries, users can also endorse libraries that, in their opinion, are relevant for the current context, even though they are not included in the provided recommendations.

Recommending API function calls and code snippets. Software developers interact with APIs on a daily basis and, therefore, often face the need to learn how to use new APIs suitable for their purposes. In [J2, C6], FOCUS, a novel approach to provide developers with API calls and source code while they are programming, is proposed and implemented. The system works on the basis of a context-aware collaborative filtering technique to extract API usages from OSS projects.

Recommending GitHub topics. Software repositories are increasingly becoming essential technologies to support the management of typical artifacts building up software projects. GitHub is at the forefront of this kind of platforms hosting more than 44M repositories. To help developers find the right artifacts, many platforms, including GitHub, make use of labels, which are assigned to the stored artifacts for properly reflecting their content and their provided functionalities. TopFilter [C5] is proposed as a novel collaborative-filtering approach to assist open-source software developers in selecting suitable topics for GitHub repositories being created.

Recommending evolution plans. Third-party libraries (TPLs) evolve over time and their dependent software clients need to be migrated to use a new library version. In this context, EvoPlan and DeepLib [J3, W1] are proposed as complementary approaches to recommend upgrade plans that minimize the efforts needed to migrate the clients' code from library's current release to the target one.

Adversarial machine learning in RS. In recent years, we have witnessed a dramatic increase in the application of Machine Learning algorithms in several domains, including developing of recommender systems for software engineering (RSSE). While researchers focused on the underpinning ML techniques to improve recommendation accuracy, little attention has been paid to make such systems robust and resilient to malicious attacks and their possible implications on Recommender Systems in Software Engineering. In [C4, C2], the impact of adversarial attacks is observed in different state-of-the-art recommender systems in the domain of API calls or code snippets and third-party libraries recommenders. Both work claim that recommender systems can be affected by adversarial attacks and all of them are not immune to malicious data.

3.3 TECHNICAL SKILLS

Due to extensive language documentation research and personal curiosity, Juri is familiar with almost all programming and markup languages, a number of them with practical experience. Most actively used programming languages are Java, C#, Visual Basic, Rascal, Python, and R. In particular, Juri became an expert in metalanguages, transformation languages, modeling languages, and data description languages. In addition, Juri had several experiences with Continuous Integration and Continuous Deployment (CDCI) tools and methodologies. The evidence of such skills are confirmed with several thousand commits to various repositories on GitHub *(@jdirocco*).

4 RESEARCH COLLABORATIONS

From 2012: participation in the MDE research group of the Università degli studi dell'Aquila, current members:

- *Prof. Alfonso Pierantonio, Full Professor;*
- *Prof. Davide Di Ruscio, Associate Professor;*
- *Dr. Phuong T. Nguyen*, *Post-doctoral researcher*;
- *Dr. Francesco Basciani*, *Post-doctoral researcher*;
- *MSc. Riccardo Rubei*, *PhD student*, the 34th cycle of the doctoral study program;
- *MSc. Claudio Di Sipio*, *PhD student*, the 35th cycle of the doctoral study program;
- *MSc. Arsene INDAMUTSA*, *PhD student*, the 35th cycle of the doctoral study program.

Form 2020: *Prof. Dr. Manuel Wimmer, Full professor*, JKU Linz (Austria).

From 2019: *Dr. Massimiliano Di Penta*, *Full Professor*, Università degli studi del Sannio (Italy).

From 2019: *Dr. Andrea Capiluppi*, *Associate Professor*, University of Groningen (the Netherlands).

From 2015: *Dr. Juan de Lara*, *Full Professor*, Universidad Autonòma de Madrid (Spain).

From 2012: *Dr. Ludovico Iovino*, *Assistant Professor*, Gran Sasso Science Institute (Italy).

From 2019 to 2020: *Dr. Thomas Degueule*, *Assistant Professor*, Laboratoire Bordelais de Recherche en Informatique (France).

From 2016 to 2020: *Dr. Ralf Lämmel*, *Full Professor,* University of Koblenz and Landau (Germany).

From 2016 to 2017: *Dr. Antonio Cicchetti*, *Associate Professor*, Mälardalen University (Sweden).

5 PARTICIPATION IN NATIONAL AND INTERNATIONAL RESEARCH PROJECTS

From January 2018 to December 2020: EU H2020 research project consortium "*TYPHON - Polyglot and Hybrid Persistence Architectures for Big Data Analytics.*" [https://www.typhon-project.org/]. The project consortium consists of 13 partners, including 6 academics and 7 industrialists. TYPHON aims to provide a methodology for the design, development, query, evolution, analysis, and monitoring of architectures for the scalable persistence of hybrid data (relational, graph-based, document-based, textual, etc. Juri contributed to the adoption of a model-driven approach to develop the modeling notation, modeling editors and workbanches, and model transformations to design polystores. In addition, a recommender system has been developed to help the modelers to select the suitable persistence layer for each defined conceptual entity.

From January 2017 to December 2019: EU H2020 research project "*CROSSMINER - Developer- Centric Knowledge Mining from Large Open-Source Software Repositories*" - [https://www.crossminer.org/]. The project consortium consists of 12 partners, including 5 academics and 7 industrialists. CROSSMINER aims to design and implement techniques and tools to support development activities by exploiting the information extracted from existing Open-Source projects. Juri collaborated to the definition of different recommendation systems to obtain real-time advice to support development activities. Moreover, Juri actively collaborated to create a Knowledge Base, a core component of the CROSSMINER platform that integrates all provided recommender systems. Juri interacted directly with the other consortium partners by participating in all project meetings and the periodical reviews with EU reviewers.

From January 2012 to December 2015: EU H2020 project "*OSSMETER - Automated Measurement and Analysis of Open-Source Software* " - [https://www.ossmeter.com/]. The project consortium consists of 9 partners, including 5 academics and 4 industrialists. OSSMETER aims to extend the state-of-the-art in the field of automated analysis and measurement of open-source software (OSS), and develop a platform that supports decision makers in the process of discovering, comparing, assessing and monitoring the health, quality, impact and activity of open-source software. Juri contributed to the research and developing activities to define modeling notation and miner components that abstract and extract key concepts from different software forges.

From March 2014 to December 2015: *EXPO ABRUZZO 2015*. Expo 2015 was a universal exposition hosted by Milan, Italy, and the Regione Abruzzo contributed to the event programme with a multitude of activities. The contribution of the Università degli Studi dell'Aquila has been to create a platform for collecting heterogeneous data, managing the information according to different profiles usages, and distributing the profiled information by means of dedicated web-based systems and mobile apps. Juri collaborated to the design and development of the web-based system and Android and IOS mobile apps.

From January 2012 to December 2013: "*FARM Free Architecture and Rational Methodology - POR FESR ABRUZZO 2007 2013.*" Juri participated in the research activities to define a methodology and a framework to develop Enterprise Rich Internet Applications.

6 PRIZES AND AWARDS FOR RESEARCH ACTIVITIES

6.1 AWARDS

Best Foundation Paper Award: Juri Di Rocco, Claudio Di Sipio, Davide Di Ruscio, Phuong T. Nguyen: "*A GNN-based Recommender System to Assist the Specification of Metamodels and Models*" ACM/IEEE 24th International Conference on Model Driven Engineering Languages and Systems (MoDELS **2021**), DOI: https://doi.org/10.1109/MODELS50736.2021.00016 (https://conf.researchr.org/track/models-2021/models-2021-awards).

Best Paper Award and **Diamond Best Paper Award:** Phuong T. Nguyen, Juri Di Rocco, Davide Di Ruscio, Massimiliano Di Penta: "*CrossRec: Supporting software developers by recommending third-party libraries.*" Journal of Systems Software 161 (**2020**), ISSN: 0164-1212, DOI: https://doi.org/10.1016/j.jss.2019.110460, (*https://www.journals.elsevier.com/journal-of-systems-and-software/news/best-paper-award-winners*).

Best Foundation Paper Award: Phuong T. Nguyen, Juri Di Rocco, Davide Di Ruscio, Alfonso Pierantonio, Ludovico Iovino: "*Automated Classification of Metamodel Repositories: A Machine Learning Approach*" ACM/IEEE 22nd International Conference on Model Driven Engineering Languages and Systems (MoDELS **2019**), DOI: https://doi.org/10.1109/MODELS.2019.00011.

Distinguished Paper Award: Phuong T. Nguyen, Juri Di Rocco, Davide Di Ruscio, Riccardo Rubei: "*CrossSim: exploiting mutual relationships to detect similar OSS projects*" at 44th Euromicro Conference on Software Engineering and Advanced Applications (SEAA **2018**), ISBN: 978-1-5386-7383-6, DOI: https://doi.org/10.1109/SEAA.2018.00069, (https://www.euromicro.org/cms/index.php/events-and-conferences/awards).

6.2 RECOGNITIONS

- Reviewer Recognition from Springer Journal of Software and Systems Modeling (SoSym). The editor in chief issued a certificate to express their appreciation for the contributions as a SoSym reviewer in 2020.
- Reviewer Recognition from the Journal of Object Technologies (JOT). The editors in chief issued a certificate to express their appreciation for the contributions as a JOT reviewer in 2019, 2020, and 2021.

7 ORGANIZATION AND PARTICIPATION OF INTERNATIONAL CONFERENCES AND WORKSHOPS

7.1 EVENT ORGANIZATION

2021

Co-chair of the 1st *International Workshop on Evaluation and Analysis of Recommender Systems in Software Engineering* WEARS 2021 co-located with the International Conference on Evaluation and Assessment in Software Engineering (EASE) 2021.

Co-chair of the 1st *Data4MDE* 2021 co-located with Software Technologies: Applications and Foundations (STAF) 2021, virtual conference.

Session-chair at the ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE) 2021 virtual conference.

2020

Co-chair of the 1st *International workshop on modeling smart cities (MOSC)* co-located with Software Technologies: Applications and Foundations (STAF) 2020, virtual conference.

2013

Web-chair of 8th *Models and Evolution workshop* 2013 (ME13) co-located with MoDELS'13.

7.2 INVITED TALKS AND TUTORIALS

Juri has been INVITED SPEAKER in the following international event:

16 April 2021: "*MDEForge: A model-as-a-service framework for multi-perspective mining of collaborative modelling repositories"* at Scalable Management of Low-Code Artefacts Workshop 2021.

7.3 PROGRAM COMMITTEE MEMBER

Juri has been program committee member for the following international events:

2021

- The ACM SIGPLAN the 14th International Conference on Software Language Engineering (SLE 2021) Artifact evaluation.
- The 2nd LowCode Workshop co-located with MoDELS 2021.
- The 1st International Workshop on Foundations and Practice of Visual Modeling (FPVM) co-located with STAF 2021.

2020

- The ACM/IEEE 21st International Conference on Model Driven Engineering Languages and Systems, MoDELS - Tool and Demonstrations track.
- The 16th International Conference on Web Information Systems and Technologies (WEBIST) 2020.

- The 13th ACM SIGPLAN International Conference on Software Language Engineering (SLE) Artifact evaluation.
- The 2nd International Workshop on Analytics and Mining of Model Repositories (AMMoRe) co-located with MoDELS 2020;

2019

- The 5th Flexible MDE Workshop (FlexMDE) co-located with MoDELS 2019.
- The 4th International Workshop on Collaborative Modelling in MDE (COMMit-MDE) co-located with MoDELS 2019.
- The 12th ACM SIGPLAN International Conference on Software Language Engineering (SLE) Artifact evaluation.
- The 6th IEEE/ACM International Conference on Mobile Software Engineering and Systems (MobileSoft) – Student Research Competition.

2018

- The 4th Flexible MDE Workshop (FlexMDE) 2018 The 5th IEEE/ACM International Conference on Mobile Software Engineering and Systems (MobileSoft) - Student Research Competition.
- The 21st ACM/IEEE International Conference on Model Driven Engineering Languages and Systems, MoDELS – Tool and Demonstrations track.
- The 11th ACM SIGPLAN International Conference on Software Language Engineering (SLE) Artifact evaluation.

2017

- The 32nd ACM SIGAPP Symposium on Applied Computing (SAC).

2014

- Seventh Seminar on Advanced Techniques and Tools for Software Evolution (SATToSE) 14.

7.4 REVIEWING ACTIVITIES

- *Journals*: Transactions on Software Engineering (TSE), IEEE Software, Institution of Engineering and Technology journal (IET), Elsevier International Journal on Software and Systems Modeling (SoSyM), Empirical Software Engineering Journal (EMSE), Journal of Object Technology (JOT).
- *Conferences and workshops*: International Conference on Model Driven Engineering Languages and Systems (MoDELS), International Conference on Web Engineering (ICWE), International Conference on Software Engineering and Knowledge Engineering (SEKE), International Conference on Computer and Communication Technology (ICCCT), International Conference on Software Language Engineering (SLE).

7.5 SUMMER SCHOOLS ATTENDANCE

Juri attended the doctoral summer school "Seminar Series on Advanced Techniques and Tools for Software Evolution (SaTTOSE)", L'Aquila, July 2014 (http://sattose.org/2014).

7.6 CONTRIBUTED PRESENTATIONS AT SCIENTIFIC CONFERENCES

October 2020: "*TopFilter: An Approach to Recommend Relevant GitHub Topics*" presentation at the 14th International Symposium on Empirical Software Engineering and Measurement, ESEM 2020 virtual conference.

October 2019: "*Automated Classification of Metamodel Repositories: A Machine Learning Approach"* presentation at the 22nd ACM/IEEE International Conference on Model-Driven Engineering Languages and Systems, MoDELS 2019, Munich, Germany.

August 2019: "*Query-Based Impact Analysis of Metamodel Evolutions"* at the 45th Euromicro Conference on Software Engineering and Advanced Applications, SEAA 2019 Kallithea, Greece.

October 2018: "*Resilience in Sirius Editors: Understanding the Impact of Metamodel Changes*" presentation at Models and Evolution Workshop, ME 2018 (co-located with MoDELS 2018) Copenhagen, Danimark.

July 2018: "*Systematic recovery of MDE technology usage*" presentation at International Conference on Model Transformation, ICMT 2018 (co-located with STAF 2018), Toulouse, France.

July 2016: "*Using ATL transformation services in the MDEForge collaborative modeling platform*" presentation at International Conference on Model Transformation, ICMT 2016, (co-located with STAF 2016) Vienna, Austria.

June 2016: "*Automated Clustering of Metamodel Repositories"* presentation at International Conference on Advanced Information Systems Engineering, CAiSE 2016, Ljubljana, Slovenia.

June 2013: "*Describing the correlations between metamodels and transformations aspects*" presentation at SATToSE 2014, L'Aquila, Italy.

8 EDITORIAL ACTIVITY

Juri is involved in the following editorial activity:

From 2020, today: Assistant editor of Journal of Object Technology (JOT) (http://www.jot.fm/).

9 TECHNOLOGY TRANSFER ACTIVITIES, DEVELOPMENT, AND DISTRIBUTION OF SOFTWARE

Software products developed as results of the research activity:

Eclipse SCAVA – Open-source platform to support the analysis and the development of complex software systems by means of recommendation systems (https://www.eclipse.org/scava).

TyphonML – Domain-specific languages and tools to support the design and development of hybrid polystore systems (https://github.com/typhon-project/typhonml/).

OSSMETER platform – An extensible platform to enable the monitoring and analysis of all aspects of an open-source software project. The platform provides an open API for querying the data, enabling third-party developers to consume the data in their applications (https://github.com/ossmeter/ossmeter/).

MDEForge – Web-based modeling artifacts repository. The system allows the use of model management tools such as software-as-a-service and can be used remotely without overloading users with complicated installation and configuration procedures (https://github.com/MDEGroup/MDEForge).

"**M.I.C. - Modello integrato del cratere per la ricostruzione dei centri storici**". MIC supports the reconstruction activities in the municipalities of the crater. Currently, the system computed more than 1.200.000.000 € as reimbursements for reconstructing the buildings (http://mic.usrc.it/).

"**SET_Index: uno strumento avanzato per la ricerca e la visualizzazione delle schede di agibilità e censimento danni AeDes**". SET_Index supports the reconstruction activities in the municipalities of the crater. It digitalizes the damage level of more than 80.000 buildings of L'Aquila after the earthquake.

10 INSTITUTIONAL, ORGANIZATIONAL AND UNIVERSITY SERVICES

September 2016: Member of supporting staff of SHAring Researchers' Passion for Engagement and Responsibility - La Notte Europea dei Ricercatori a L'Aquila (SHARPER'16).

July 2015: Member of the supporting staff of the Software Technologies: Applications and Foundations conference (STAF'15), L'Aquila.

October 2014: Member of the student volunteer program of the 17th International Conference on Model Driven Engineering Languages and Systems (MoDELS'14), Valencia.

11 TEACHING ACTIVITY

2021/2022

Lectures in the context of the course Tecnologie del Web (Prof. Alfonso Pierantonio), Università degli Studi dell'Aquila, Corso di Laurea in Informatica - **Subject expert**.

2020/2021

Lectures in the context of the course Tecnologie del Web (Prof. Alfonso Pierantonio), Università degli Studi dell'Aquila, Corso di Laurea in Informatica.

2019/2020

Lectures in the context of the course Tecnologie del Web (Prof. Alfonso Pierantonio), Università degli Studi dell'Aquila, Corso di Laurea in Informatica- **Subject expert**.

2018/2019

Lectures in the context of the course Tecnologie del Web (Prof. Alfonso Pierantonio), Università degli Studi dell'Aquila, Corso di Laurea in Informatica.

2017/2018

Lectures in the context of the course Tecnologie del Web (Prof. Alfonso Pierantonio), Università degli Studi dell'Aquila, Corso di Laurea in Informatica.

2016/2017

Lectures in the context of the course Tecnologie del Web (Prof. Alfonso Pierantonio), Università degli Studi dell'Aquila, Corso di Laurea in Informatica.

12 THESIS SUPERVISION

Since 2013 Juri has been a co-supervisor and supervisor of several thesis at the Università degli Studi dell'Aquila, some of them have given place to scientific publications and international collaborations.

2021

Alessandro Sallese, Master thesis: "*Development of recommendation systems in VSCode environment*" (co-advisor). Advisor: Prof. Davide Di Ruscio, Università degli Studi dell'Aquila.

2020

Marco Ovidi, Bachelor thesis: "*Generazione di ambienti di metamodellazione mediante le estensioni di AutoCAD*" (co-advisor). Advisor: Prof. Alfonso Pierantonio, Università degli Studi dell'Aquila.

2019

Andrea Serafini, Bachelor thesis: "*PRETTEF: A Quality Model for Web Development Frameworks Multi-Criteria Analysis*" (co-advisor). Advisor: Prof. Alfonso Pierantonio, Università degli Studi dell'Aquila.

2017

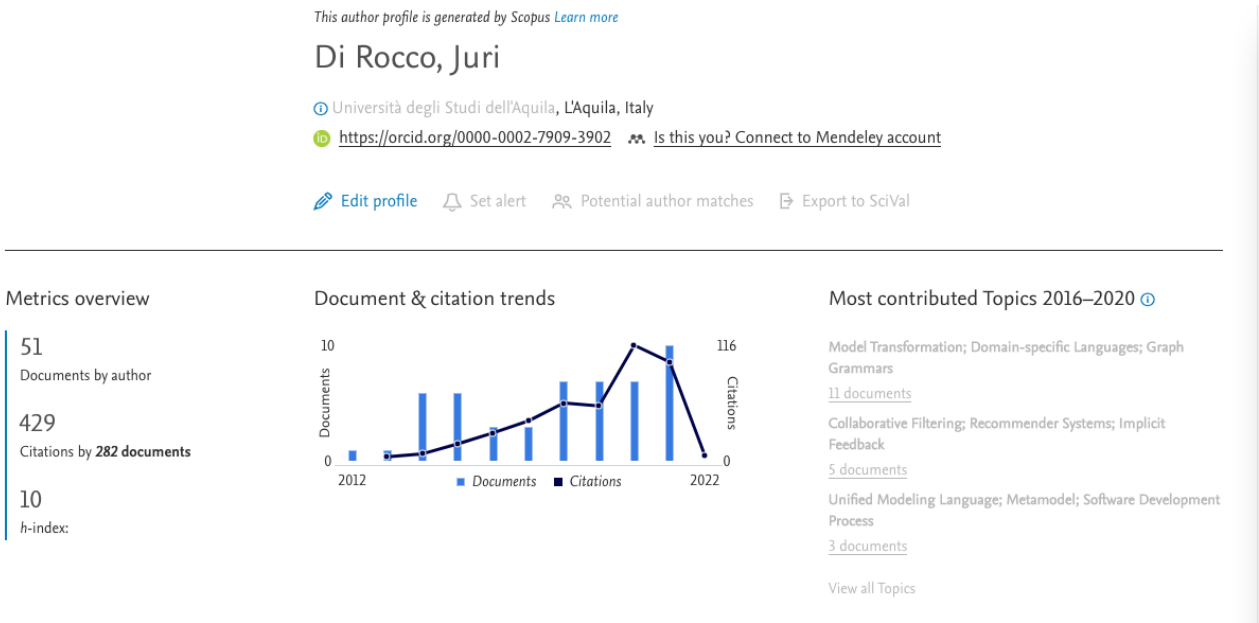
Stefano Valentini, Bachelor thesis: "*Generation of Textual Modelling Environments for Metamodel-specific languages*" (co-advisor). Advisor: Prof. Alfonso Pierantonio, Università degli Studi dell'Aquila.

2013

Mario Cardarelli, Bachelor thesis: "*Progettazione e realizzazione di un generatore di API REST per BeContent*" (co-advisor). Advisor: Prof. Alfonso Pierantonio, Università degli Studi dell'Aquila.

13 SOME BIBLIOMETRIC INDICATORS

Source Scopus



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Last access 10/01/2022

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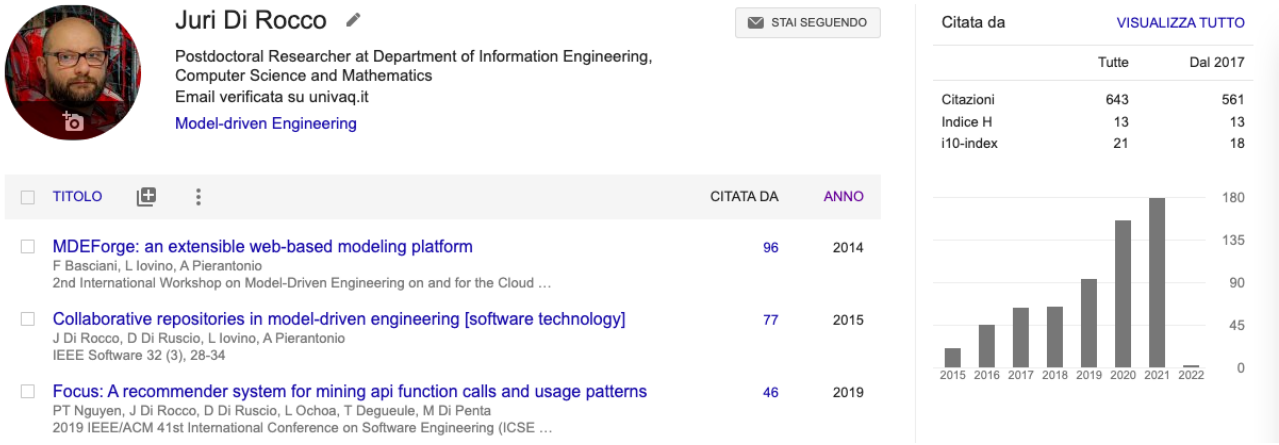


https://scholar.google.com/citations?user=PNagLbIAAAAJ&hl=it

Last access 10/01/2022

14 PUBLICATIONS

14.1 PHD THESIS

T1. Juri Di Rocco, "*A model-as-a-service framework for multi-perspective mining of collaborative modelling repositories,*" Università degli studi dell'Aquila, April 2017.

14.2 JOURNAL PAPERS

2021

J1. Phuong T. Nguyen, Juri Di Rocco, Ludovico Iovino, Davide Di Ruscio, Alfonso Pierantonio, "*Evaluation of Machine Learning Classifiers for Metamodels,*" Springer Software and Systems Modeling (SoSyM), DOI: https://doi.org/10.1007/s10270-021-00913-x.

J2. Phuong T. Nguyen, Juri Di Rocco, Claudio Di Sipio, Davide Di Ruscio, Massimiliano Di Penta "*Recommending API Function Calls and Code Snippets to Support Software Development,*" IEEE Transactions on Software Engineering (TSE), 2021, ISSN: 1939-3520, DOI: https://doi.org/10.1109/TSE.2021.3059907.

J3. Riccardo Rubei, Claudio Di Sipio, Davide Di Ruscio, Phuong T. Nguyen, Juri Di Rocco, "*Providing Upgrade Plans for Third-party Libraries: A Recommender System using Migration Graphs",* Springer Applied Intelligence (APIN), DOI: https://doi.org/10.1007/s10489-021-02911-4 (to appear).

J4. Juri Di Rocco, Davide Di Ruscio, Claudio Di Sipio, Phuong T. Nguyen, Riccardo Rubei, "*Development of recommendation systems for software engineering: the CROSSMINER experience",* Springer Empirical Software Engineering (EMSE), ISSN: 1573-7616, DOI: https://doi.org/10.1007/s10664-021-09963-7.

2020

J5. Juri Di Rocco, Davide Di Ruscio, Johannes Härtel, Ludovico Iovino, Ralf Lämmel, Alfonso Pierantonio, "*Understanding MDE projects: megamodels to the rescue for architecture recovery*", Software and Systems Modeling (SoSyM), 2020, DOI: https://doi.org/10.1007/s10270-019-00748-7.

J6. Phuong T. Nguyen, Davide Di Ruscio, Juri Di Rocco, Alfonso Pierantonio, Ludovico Iovino, "*Convolutional neural networks for enhanced classification mechanisms of metamodels",* Elsevier Journal of Systems and Software (JSS), 2020, ISSN: 0164-1212, DOI: https://doi.org/10.1016/j.jss.2020.110860.

J7. Andrea Capiluppi, Davide Di Ruscio, Juri Di Rocco, Phuong T. Nguyen, Nemitari Ajienka, "*Detecting Java Software Similarities by using Different Clustering Techniques"* Elsevier Information and Software Technology (IST), 2020, ISSN: 0950-5849, DOI: https://doi.org/10.1016/j.infsof.2020.106279.

J8. Riccardo Rubei, Claudio Di Sipio, Phuong T. Nguyen, Juri Di Rocco, Davide Di Ruscio, "*PostFinder: Mining Stack Overflow posts to support software developers",* Elsevier Information and Software and Technology (IST), 2020, ISSN: 0950-5849, DOI: https://doi.org/10.1016/j.infsof.2020.106367.

J9. Phuong T. Nguyen, Juri Di Rocco, Davide Di Ruscio, Massimiliano Di Penta, *"CrossRec: Supporting Software Developers by Recommending Third-party Libraries",* Elsevier Journal of Systems and Software (JSS), 2020, ISSN: 0164-1212, DOI: https://doi.org/10.1016/j.jss.2019.110460, **Best Paper Award Winners for 2020** and **Diamond Best Paper Award**.

J10. Phuong T. Nguyen, Juri Di Rocco, Riccardo Rubei, Davide Di Ruscio, "*An Automated Approach to Assess the Similarity of GitHub Repositories",* Springer Software Quality Journal (SQJ), Vol 28, pages 595–631, 2020, ISSN: 0963-9314, DOI: https://doi.org/10.1007/s11219-019-09483-0.

2019

J11. Juan De Lara, Esther Guerra, Davide Di Ruscio, Juri Di Rocco, Jesús Sánchez Cuadrado, Ludovico Iovino, Alfonso Pierantonio, *"Automated Reuse of Model Transformations through Typing Requirements Models,"* ACM Transaction on Software Engineering Methodology 2019, DOI: https://doi.org/10.1145/3340108.

J12. Francesco Basciani, Juri Di Rocco, Davide Di Ruscio, Ludovico Iovino, Alfonso Pierantonio, *"A tool-supported approach for assessing the quality of modeling artifacts,"* Journal of Computer Languages (COLA), 2019, DOI https://doi.org/10.1016/j.cola.2019.02.003.

2015

J13. Juri Di Rocco, Davide Di Ruscio, Ludovico Iovino, and Alfonso Pierantonio, "*Collaborative Repositories in Model-Driven Engineering*", IEEE Software, 2015, 32:3(28-34), DOI: https://doi.org/10.1109/MS.2015.61.

14.3 CONFERENCE PAPERS

2022

C1. Riccardo Rubei, Claudio Di Sipio, Juri Di Rocco, Davide Di Ruscio and Phuong T. Nguyen, "*Endowing third-party libraries recommender systems with explicit user feedback mechanisms*," accepted as an Early Research Achievements (ERA) paper at the 29th edition of the International Conference on Software Analysis, Evolution, and Reengineering, SANER 2022, to appear.

2021

C2. Phuong T. Nguyen, Juri Di Rocco, Claudio Di Sipio, Davide Di Ruscio, Massimiliano Di Penta, "*Adversarial Attacks to API Recommender Systems: Time to Wake Up and Smell the Coffee?,"* accepted as a full research paper at the 36th IEEE/ACM International Conference on Automated Software Engineering, ASE 2021, *to appear*.

C3. Juri Di Rocco, Claudio Di Sipio, Davide Di Ruscio, Phuong T. Nguyen, "*A GNN-based Recommender System to Assist the Specification of Metamodels and Models,*" in Proceedings of the 24th International Conference on Model Driven Engineering Languages and Systems, MoDELS 2021, DOI: https://doi.org/10.1109/MODELS50736.2021.00016 **Best Foundation Paper Award**.

C4. Phuong T. Nguyen, Juri Di Rocco, Claudio Di Sipio, Davide Di Ruscio, Massimiliano Di Penta, "Adversarial Machine Learning: On the Resilience of Third-party Library Recommender Systems" in Proceedings of the 25th International Conference on Evaluation and Assessment in Software Engineering, EASE 2021, DOI: https://doi.org/10.1145/3463274.3463809.

2020

C5. Juri Di Rocco, Davide Di Ruscio, Claudio Di Sipio, Phuong Nguyen and Riccardo Rubei, "*TopFilter: An Approach to Recommend Relevant GitHub Topics,"* in Proceedings of the 14th International Symposium on Empirical Software Engineering and Measurement, ESEM 2020, ISBN: 978-1-4503-7580-1, DOI: https://doi.org/10.1145/3382494.3410690.

2019

C6. Phuong T. Nguyen, Juri Di Rocco, Davide Di Ruscio, Lina Ochoa, Thomas Degueule, Massimiliano Di Penta, "*FOCUS: A Recommender System for Mining API Function Calls and Usage Patterns,*" in Proceedings of the 41st International Conference on Software Engineering, ICSE 2019, ISBN: 978-1-7281-0869-8, DOI: https://doi.org/10.1109/ICSE.2019.00109.

C7. Phuong T. Nguyen, Juri Di Rocco, Davide Di Ruscio, Alfonso Pierantonio, Ludovico Iovino, "*Automated Classification of Metamodel Repositories: A Machine Learning Approach,"* in Proceedings of the 22nd ACM/IEEE International Conference on Model Driven Engineering Languages and Systems, MoDELS 2019, DOI: https://doi.org/10.1109/MODELS.2019.00011, **Best Foundation Paper Award**.

C8. Ludovico Iovino, Adrian Rutle, Alfonso Pierantonio, Juri Di Rocco, "*Query-Based Impact Analysis of Metamodel Evolutions*" In Proceedings of the 45th Euromicro Conference on Software Engineering and Advanced Applications (SEAA), 2019, DOI: https://doi.org/10.1109/SEAA.2019.00074.

C9. Phuong T. Nguyen, Juri Di Rocco, Davide Di Ruscio, "*Enabling heterogeneous recommendations in OSS development: What's done and what's next in CROSSMINER*" in Proceedings of the 23rd International Conference on Evaluation and Assessment on Software Engineering, EASE 2019, ISBN: 978-1-4503-7145-2, DOI: https://doi.org/10.1145/3319008.3319353.

2018

C10. Juri Di Rocco, Davide Di Ruscio, Johannes Härtel, Ludovico Iovino, Ralf Lämmel, Alfonso Pierantonio, "*Systematic Recovery of MDE Technology Usage*", In Theory and Practice of Model Transformation (ICMT), 2018, DOI: https://doi.org/10.1007/978-3-319-93317-7_5.

C11. Phuong T. Nguyen, Juri Di Rocco, Riccardo Rubei, Davide Di Ruscio, "*CrossSim: exploiting mutual relationships to detect similar OSS projects"* in Proceedings of the 44th Euromicro Conference on

Software Engineering and Advanced Applications, SEAA 2018, ISBN: 978-1-5386-7383-6, DOI: https://doi.org/10.1109/SEAA.2018.00069, **Distinguished Paper Award.**

2017

C12. Juan de Lara, Juri di Rocco, Davide di Ruscio, Esther Guerra, Ludovico Iovino, Alfonso Pierantonio, Jesús Sánchez Cuadrado, "*Reusing Model Transformations through Typing Requirements Models*", in Proceedings of 20th International Conference on Fundamental Approaches to Software Engineering (FASE17), 2017, DOI: https://doi.org/10.1007/978-3-662-54494-5_15.

2016

C13. Francesco Basciani, Juri Di Rocco, Davide Di Ruscio, Ludovico Iovino and Alfonso Pierantonio, "*Automated Clustering of Metamodel Repositories"*, in Proceedings of the 28th International Conference on Advanced Information Systems Engineering (CAiSE'16), 2016, DOI: https://doi.org/10.1007/978-3-319-39696-5_21.

C14. Francesco Basciani, Juri Di Rocco, Davide Di Ruscio, Ludovico Iovino and Alfonso Pierantonio, "*A Customizable Approach for the Automated Quality Assessment of Modelling Artefacts*" ', in Proceedings of the 10th International Conference on the Quality of Information and Communications Technology (QUATIC), 2016, DOI: https://doi.org/10.1109/QUATIC.2016.025.

2014

C15. James R. Williams, Davide Di Ruscio, Juri Di Rocco, Dimitrios S. Kolovos, "Models *of OSS Project Meta-Information: A Dataset of Three Forges*", in Proceedings of the 11th Working Conference on Mining Software Repositories (MSR14) co-located with ICSE, 2014, DOI: https://doi.org/10.1145/2597073.2597132.

14.4 WORKSHOP PAPERS

2021

W1. Phuong T. Nguyen, Juri Di Rocco, Riccardo Rubei, Claudio Di Sipio, Davide Di Ruscio, "*Recommending Third-party Library Updates with LSTM Neural Networks",* in Proceedings of the 11th Italian Information Retrieval Workshop, September 13--15, 2021, Bari, Italy.

W2. Juri Di Rocco, Claudio Di Sipio, Davide Di Ruscio, Phuong T. Nguyen, Claudio Pomo, "*On the Need for a Body of Knowledge on Recommender Systems*", in Proceedings of the 3rd Edition of Knowledge-aware and Conversational Recommender Systems (KaRS) \& 5th Edition of Recommendation in Complex Environments (ComplexRec) Joint Workshop co-located with the 15th ACM Conference on Recommender Systems, RecSys 2021, Amsterdam, Netherlands http://ceur-ws.org/Vol-2947/paper7.pdf).

W3. Arsene Indamutsa, Juri Di Rocco, Davide Di Ruscio, Alfonso Pierantonio, "*MDEForgeWL: Towards cloud-based discovery and composition of model management services*", in Proceeding of the 3rd International Workshop on Modelling Language Engineering (MLE 2021), co-located with the IEEE/ACM 24th International Conference on Model Driven Engineering Languages and Systems, MoDELS 2021.

W4. Damiano Di Vincenzo, Juri Di Rocco, Davide Di Ruscio, Alfonso Pierantonio, "*Enhancing syntax expressiveness in domain-specific modelling*", in Proceeding of 2nd LowCode Workshop (LowCode

2021), co-located with the IEEE/ACM 24th International Conference on Model Driven Engineering Languages and Systems, MoDELS 2021.

W5. Riccardo Rubei, Juri Di Rocco, Davide Di Ruscio, Phuong T. Nguyen, Alfonso Pierantonio, "*A Lightweight Approach for the Automated Classification and Clustering of Metamodels",* in Proceedings of the 2nd International Workshop on Open Model Based Engineering Environment (OpenMBEE 2021), co-located with the IEEE/ACM 24th International Conference on Model Driven Engineering Languages and Systems, MoDELS 2021.

2019

W6. Phuong T. Nguyen, Juri Di Rocco, Davide Di Ruscio "*Building Information Systems Using Collaborative-Filtering Recommendation Techniques*" in Proceedings of Advanced Information Systems Engineering Workshops, co-located with the 31st International Conference on Advanced Information Systems Engineering (CAiSE), 2019, ISBN: 978-3-030-21290-2, DOI: https://doi.org/10.1007/978-3-030-20948-3_19.

2018

W7. Phuong T. Nguyen, Juri Di Rocco, Davide Di Ruscio "*Knowledge-aware Recommender System for Software Development",* in Proceedings of the Knowledge-aware and Conversational Recommender Systems Workshop, KaRS 2018 (co-located with RecSys 2018), October 7, 2018, Vancouver, Canada (http://ceur-ws.org/Vol-2290/kars2018_paper4.pdf).

W8. Phuong T. Nguyen, Juri Di Rocco, Davide Di Ruscio "*Mining Software Repositories to Support OSS Developers: A Recommender Systems Approach*", in Proceedings of the Italian Information Retrieval Workshop, IIR, 2018 http://ceur-ws.org/Vol-2140/paper9.pdf).

W9. Juri Di Rocco, Davide Di Ruscio, Hrishikesh Narayanankutty, Alfonso Pierantonio, "*Resilience in Sirius Editors: Understanding the Impact of Metamodel Changes*", in Proceedings of the Models and Evolution Workshop (ME) at Models, 2018, http://ceur-ws.org/Vol-2245/me_paper_6.pdf).

W10. Francesco Basciani, Juri Di Rocco, Davide Di Ruscio, Ludovico Iovino, Alfonso Pierantonio, "*Exploring model repositories by means of megamodel-aware search operators*",' in Proceedings of the International Workshop on Analytics and Mining of Model Repositories (AMMoRe) at MoDELS '18, 2018, DOI http://ceur-ws.org/Vol-2245/ammore_paper_3.pdf.

W11. Alessandra Bagnato, Konstantinos Barmpis, Nick Bessis, Luis Adrián Cabrera-Diego, Juri Di Rocco, Davide Di Ruscio, Davide, Tamás Gergely, Scott Hansen, Dimitris Kolovos, Philippe Krief, Ioannis Korkontzelos, Stéphane Laurière, Jose Manrique Fuente, Pedro Maló, Richard F. Paige, Diomidis Spinellis, Thomas Cedric, Jurgen *Vinju, "Developer-Centric Knowledge Mining from Large Open-Source Software Repositories (CROSSMINER)*", in Proceedings of the Projects showcase at Software Technologies: Applications and Foundations (STAF'18), 2018, DOI: https://doi.org/10.1007/978-3-319-74730-9_33.

W12. Juri Di Rocco, Davide Di Ruscio, Marcel Heinz, Ludovico Iovino, Ralf Lämmel, Alfonso Pierantonio, "*Consistency Recovery in Interactive Modeling*" in Proceedings of the 3rd International workshop on executable modeling at MoDELS, 2017 (http://ceur-ws.org/Vol-2019/exe_6.pdf).

2017

W13. Juri Di Rocco, Davide Di Ruscio, Ludovico Iovino, Ralf Lämmel, Alfonso Pierantonio, "*MDE adoption—a three-legged chair"*, In proceedings of the Workshop on Grand Challenges in Modeling at STAF, 2017.

2016

W14. Lorenzo Addazi, Antonio Cicchetti, Juri Di Rocco, Davide Di Ruscio, Ludovico Iovino and Alfonso Pierantonio, "*Semantic-based Model Matching with EMFCompare*", in Proceedings of the Models and Evolution Workshop (ME16) at MoDELS, 2016, (http://ceur-ws.org/Vol-1706/paper6.pdf).

2015

W15. Francesco Basciani, Juri Di Rocco, Davide Di Ruscio, Ludovico Iovino and Alfonso Pierantonio, "*Model Repositories: Will they become reality?*" in Proceedings of the CloudMDE Workshop at MoDELS, 2015, (http://ceur-ws.org/Vol-1563/paper7.pdf).

W16. Juri Di Rocco, Davide Di Ruscio, Ludovico Iovino, Alfonso Pierantonio, "*Mining Correlations of ATL Model Transformation and Metamodel Metrics*", in Proceedings of the Workshop on Modeling in Software Engineering (MiSE) @ ICSE 2015, DOI: https://doi.org/10.1109/MiSE.2015.17.

W17. Juri Di Rocco, Davide Di Ruscio, Ludovico Iovino, Alfonso Pierantonio, "*Supporting Users to Manage Breaking and Unresolvable Changes in Coupled Evolution*", in Proceedings of the 15th Workshop on Domain-Specific Modeling (DSM) at SPLASH, 2015, DOI: https://doi.org/10.1145/2846696.2846703.

W18. Bruno Almeida, Sophia Ananiadou, Alessandra Bagnato, Alberto Berreteaga Barbero, Juri Di Rocco, Davide Di Ruscio, Dimitrios S. Kolovos, Ioannis Korkontzelos, Scott Hansen, Pedro Malo, Nicholas Matragkas, Richard F. Paige, Jurgen Vinju, "*OSSMETER: Automated Measurement and Analysis of Open Source Software*". in Proceedings of the Projects Showcase at STAF, 2015, (http://ceur-ws.org/Vol-1400/paper9.pdf).

2014

W19. Francesco Basciani, Juri Di Rocco, Davide Di Ruscio, Amleto Di Salle, Ludovico Iovino, Alfonso Pierantonio, "*MDEForge: an extensible Web-based modeling platform*", in Proceedings of the CloudMDE Workshop at MoDELS, 2014 (http://ceur-ws.org/Vol-1242/paper10.pdf).

W20. Juri Di Rocco, Davide Di Ruscio, Ludovico Iovino, Alfonso Pierantonio, "*Mining metrics for understanding metamodel characteristics*", in Proceedings of the Workshop on Modeling in Software Engineering (MiSE) at ICSE'14, 2014, DOI: https://doi.org/10.1145/2593770.2593774.

W21. Juri Di Rocco, Davide Di Ruscio, Ludovico Iovino, Alfonso Pierantonio, "*Describing the correlations between metamodels and transformations aspects*", in Proceedings of the 7th Seminar on Advanced Techniques and Tools for Software Evolution, SATToSE14, 2014 (http://ceur-ws.org/Vol-1354/paper-08.pdf).

W22. Francesco Basciani, Juri Di Rocco, Davide Di Ruscio, Ludovico Iovino and Alfonso Pierantonio. "*Qualifying chains of transformation with coverage based evaluation criteria*", in Proceedings of the 7th Seminar on Advanced Techniques and Tools for Software Evolution, SATToSE, 2014 (http://ceur-ws.org/Vol-1354/paper-07.pdf).

W23. Juri Di Rocco, Davide Di Ruscio, Ludovico Iovino, Alfonso Pierantonio. "*Dealing with the coupled evolution of metamodels and model-to-text transformations*", in Proceedings of the Models and Evolution Workshop, ME at MoDELS, 2014 (http://ceur-ws.org/Vol-1331/p3.pdf).

2013

W24. Juri Di Rocco, Davide Di Ruscio, Ludovico Iovino, Alfonso Pierantonio, "*Traceability Visualization in Metamodel Change Impact Detection",* in Proceedings of the 2nd Workshop on Graphical

Modeling Language Development (GMLD) at ECMFA, 2013, DOI: https://doi.org/10.1145/2489820.2489824.

2012

W25. Alfonso Pierantonio, Ludovico Iovino, Juri Di Rocco. "Bridging state-based differencing and co-evolution", in Proceedings of the Models and Evolution Workshop (ME) at MoDELS, 2012, DOI: https://doi.org/10.1145/2523599.2523603.

14.5 Journal First

JF1. Riccardo Rubei, Claudio Di Sipio, Phuong T. Nguyen, Juri Di Rocco, Davide Di Ruscio, "*PostFinder: Mining Stack Overflow posts to support software developers*", Elsevier Information and Software and Technology (IST), 2020, ISSN: 0950-5849, DOI: https://doi.org/10.1016/j.infsof.2020.106367, presented at the 36th IEEE International Conference on Software Maintenance and Evolution, ICSME 2020.

JF2. Andrea Capiluppi, Davide Di Ruscio, Juri Di Rocco, Phuong T. Nguyen, Nemitari Ajienka, "*Detecting Java Software Similarities by using Different Clustering Techniques",* Elsevier Information and Software Technology (IST), 2020, ISSN: 0950-5849, DOI: https://doi.org/10.1016/j.infsof.2020.106279 , presented at the 27th IEEE International Conference on Software Analysis, Evolution and Reengineering, SANER 2020.

14.6 Demos

2021

D1. Claudio Di Sipio, Juri Di Rocco, Davide Di Ruscio, Phuong T. Nguyen, *LEV4REC: A Low-Code Environment to Support the Development of Recommender Systems",* demo at the 15th ACM Conference on Recommender Systems, RecSys 2021, DOI: https://doi.org/10.1145/3460231.3478885.

2020

D2. Francesco Basciani, Juri Di Rocco, Davide Di Ruscio, Alfonso Pierantonio, Ludovico Iovino, *TyphonML: A Modeling Environment to Develop Hybrid Polystores*", in Proceedings of the 23rd ACM/IEEE International Conference on Model Driven Engineering Languages and Systems: Companion Proceedings, 2020, DOI: https://doi.org/10.1145/3417990.3421999.

2016

D3. Juri Di Rocco, Davide Di Ruscio, Alfonso Pierantonio, Jesùs Sànchez Cuadrado, Juan De Lara, Esther Guerra. Using ATL transformation services in the MDEForge collaborative modeling platform, in Proceedings of the 9th International Conference on Model Transformation, ICMT, 2016, DOI: https://doi.org/10.1007/978-3-319-42064-6_5.

2015

D4. Francesco Basciani, Juri Di Rocco, Davide Di Ruscio, Ludovico Iovino and Alfonso Pierantonio. "*A Tool for Clustering Metamodel Repositories*", in Proceedings of the Demonstrations and Posters at MoDELS, 2015 (http://ceur-ws.org/Vol-1554/PD_MoDELS_2015_paper_2.pdf).

15 Languages

Italian Mother tongue
English Good

16 Reference Letters

Prof. Juan de Lara,
Departamento de Ingeniería Informática,
Universidad Autónoma de Madrid, Spain

Prof. Massimiliano Di Penta,
Department of Engineering,
Università degli studi del Sannio, Italy.

Universidad Autónoma de Madrid

Computer Science Department

To the evaluation committee of RTD-A positions at the University of L'Aquila:

It is my pleasure to recommend Dr. Juri di Rocco as a candidate for the RTD-A position at DISIM. I first met Juri in 2015, when he visited our research group in December. We worked on the integration of model transformation analysis and testing services within MDEForge. I was impressed by Juri's knowledge on model-driven engineering and his exceptional technical abilities. Our collaboration was very successful, and was extended to topics on model transformation reuse in the following years. Together, we published on some of the main venues on model transformation and model-driven engineering:

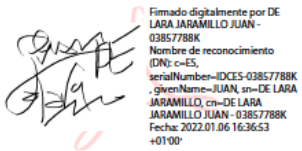
1. Juri Di Rocco, Davide Di Ruscio, Alfonso Pierantonio, Jesùs Sànchez Cuadrado, Juan De Lara, Esther Guerra. Using ATL transformation services in the MDEForge collaborative modeling platform, in Proceedings of the 9th International Conference on Model Transformation (ICMT'16), 2016, DOI: https://doi.org/10.1007/978-3-319-42064-6_5.
2. Juan de Lara, Juri di Rocco, Davide di Ruscio, Esther Guerra, Ludovico Iovino, Alfonso Pierantonio, Jesús Sánchez Cuadrado, "*Reusing Model Transformations through Typing Requirements Models*", in Proceedings of 20th International Conference on Fundamental Approaches to Software Engineering (FASE17), 2017, DOI: https://doi.org/10.1007/978-3-662-54494-5_15.
3. Juan de Lara, Esther Guerra, Davide di Ruscio, Juri di Rocco, Jesús Sánchez Cuadrado, Ludovico Iovino, Alfonso Pierantonio, "*Automated Reuse of Model Transformations through Typing Requirements Models*", ACM Transaction on Software Engineering Methodology 2019, DOI: https://doi.org/10.1145/3340108.

Later in 2021, we worked together (and with Professor Michel R. V. Chaudron) in the organization of the first international workshop on data for MDE (https://jdirocco.github.io/Data4MDE/) at the STAF conference. Juri was the proposer of the interesting and timely topic of the workshop. Despite the difficult times during the pandemic, Juri demonstrated high responsibility and diligence in the workshop organization.

It has always been a pleasure to collaborate with Juri, due to his great skills and responsibility in his work, as well as his predisposition to search for and explore new ideas. Given my experience, and his excellent research track record, I have no doubt that he is the perfect candidate for the RTD-A vacancy at DISIM.

Please do not hesitate to contact me should you need further information or clarification.

Madrid, 6th of January 2022



Juan de Lara Jaramillo
Full Professor
Head of the Modelling and Software Engineering Research Group (http://www.miso.es)
Computer Science Department
Universidad Autónoma de Madrid (Spain)
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e-mail: Juan.deLara@uam.es
Tel.: +34 91 497 22 77

Università degli Studi del Sannio

Dipartimento di Ingegneria

To Whom It May Concern:

I'm extremely happy to highly recommend Dr. Juri Di Rocco as an extremely qualified candidate for the position of assistant professor ("ricercatore a tempo determinato tipo a – RTDa") at the DISIM Department of University of L'Aquila. I've been in touch with Juri since 2017, when I was visiting the University of L'Aquila and the Gran Sasso Science Institute to teach a PhD course on Empirical Software Engineering. I've met him and the group lead by Prof. Davide Di Ruscio, and we started to discuss possible collaboration opportunities in the area of mining software repositories and recommender systems for software developers. More specifically, since Juri and the rest of the group were involved in developing an API recommender system in the context of the CrossMiner project, we discussed together how to improve it and what would be the best strategy to evaluate it.

We worked together on a first paper about an API and snippet recommender system named FOCUS, and the paper got accepted at the International Conference on Software Engineering (ICSE 2019). For those who don't know ICSE, it's the most prestigious conference in the area of software engineering, ranked A* on CORE (https://portal.core.edu.au/conf-ranks/) and among the venues considered by csrankings.org (https://csrankings.org) to rank Universities in terms of their contribution in computer science. The extended version of this work has been published in the IEEE Transactions on Software Engineering (which is the most prestigious software engineering journal). Upon preparing the extended version of the paper, which required to perform an extensive empirical evaluation involving tool users, Juri's contribution in helping to design the experiment and prepare the experimentation material was extremely useful.

We also worked together on a different piece of research, also related to recommender systems for software developers, i.e., a library recommender system. This work accepted on the Journal of Systems and Software (JSS), and which was awarded as one of the two best papers among those published in 2020.

More recently, we worked together on security-related aspects for recommender systems, and we have published together two papers on this topic, one at the International Conference on Evaluation and Assessment in Software Engineering (EASE 2021) EASE conference, and another one at the ACM/IEEE International Conference on Automated Software Engineering (ASE 2021, ranked A*).

In summary, we published five outstanding papers together.

Besides the work conducted together, I think Juri has a great research record, featuring other contributions in journals such as Empirical Software Engineering, ACM Transactions on Software Engineering and Methodology (TOSEM), Journal of Systems and Software, or Information & Software Technology, IEEE Software, Software and Systems Modeling, and premier conferences including MODELS, ESEM, and CAiSE.

Juri has been always active throughout our collaboration, providing both theoretical and practical contribution to the research. Also, He proven to be able to conduct research in full autonomy, provide novel ideas to the research, and productively and constructively interact with collaborators. Therefore, it has been a great pleasure to collaborate with Juri, and we are still keeping our collaboration active.

Università degli Studi del Sannio

Dipartimento di Ingegneria

For the reasons stated above, I strongly recommend hiring committees to opt for Juri, as he will be able to provide great contributions in a Department and in a research group.

January 9, 2022

Massimiliano Di Penta – Full Professor
University of Sannio, Dept. of Engineering
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Web: https://mdipenta.github.io

17 CERTIFICATE OF MERIT

Ing. Raffaello Fico
USRC (Ufficio Speciale Ricostruzione Comuni del Cratere), L'Aquila.

Arch. Sandro Coppari
Protezione Civile Nazionale, Italy.

U.S.R.C.

Ufficio Speciale per la Ricostruzione dei Comuni del Cratere

Fossa 26/10/2021

Spett. le dott. Juri Di Rocco
juri.di.rocco@gmail.com

OGGETTO: Rilascio attestato.

Con la presente si **attesta** che il dott. Juri Di Rocco ha svolto le attività di progettazione e sviluppo, nell'ambito del progetto "Sisma Abruzzo 2009: Il Modello Integrato per i Comuni del Cratere (MIC)" finalizzato alla realizzazione della piattaforma web mic.usrc.it, e del relativo database, impiegata nei processi lavorativi dello scrivente Ufficio.

Il Titolare dell'Ufficio Speciale
per la Ricostruzione dei Comuni del Cratere
Ing. Raffaello Fico

Firmato digitalmente da:
Raffaello Fico
Firmato il 26/10/2021 09:59
Seriale Certificato: 23194124
Valido dal 15/09/2021 al 15/09/2024
InfoCert Firma Qualificata 2

MODULARIO P. C. M. 198

MOD. 3

Presidenza del Consiglio dei Ministri

DIPARTIMENTO DELLA PROTEZIONE CIVILE

UFFICIO VALUTAZIONE, PREVENZIONE E MITIGAZIONE DEL RISCHIO SISMICO

ATTESTATO

In relazione all'

Ordinanza del Presidente del Consiglio dei Ministri n. 3753 del 6 aprile 2009 recante: *"Primi interventi urgenti conseguenti agli eventi sismici che hanno colpito la provincia de L'Aquila ed altri comuni della regione Abruzzo il giorno 6 aprile 2009"*. Lettera di commessa n. DPC/Terremoto Abruzzo/8715 del 7/5/2009 per la fornitura del servizio di gestione informatizzata delle attività tecniche post terremoto presso la DI.COMA.C. de L'Aquila.

Si attesta

che il dott. Juri Di Rocco, in qualità di dipendente della società aggiudicataria della suddetta commessa, ha svolto, con grande competenza e disponibilità, l'incarico di responsabile del sistema di informatizzazione delle schede di agibilità e censimento del danno AeDes e di sviluppatore dell'applicativo SET_Index, di ricerca e visualizzazione delle immagini delle schede suddette, dalla data della commessa alla data odierna.

Bazzano, 2 marzo 2010

Il direttore dell'esecuzione contrattuale
Arch. Sandro Coppari

Sandro Coppari

Juri DI Rocco authorizes the processing of personal data in accordance with Law 676/96 and subsequent changes and / or additions.

L'Aquila, 08 January 2022

Signature

Dr. Juri Di Rocco