

Atif Mashkoor, Sc.D., Ph.D.

Research Interests	AI-Driven Software Engineering Logics, Formalisms & Rigorous Methods Requirements Engineering Safety- and Security-Critical Embedded & Cyber-Physical Systems
Awards & Honors	Acquired Funding as Principal Investigator ~ 1.1 Million Euros Extensive Post-Ph.D. Professional Experience (12 Years in Industry and Eight Years in Academia) Teaching Experience across Asia (Pakistan), Europe (Austria, France, Italy), and North America (USA) Co-founder of International Workshop on Cybersecurity and Functional Safety for Cyber-Physical Systems (IWCFS) Reviewer for the Austrian Agency for Education and Internationalization (OeAD)'s WTZ Research Funding Program Reviewer for the French National Research Agency (ANR) Best Paper Awards @ ICFEM 2023, ICSSP/ICGSE 2021, RE 2010 Associate Professor Position Offer @ University of Southern Denmark, Sønderborg, Denmark, 2023 (Declined) Steering Committee Member @ Center for AI Applications in Health Sciences, University of Karachi, Pakistan since Nov 2021 Adjunct Faculty @ ICCBS, Karachi, Pakistan (A UNESCO Category II Center) since Jan 2021 Keynote Speaker @ International Workshop on Machine Learning in Software Engineering @ ECML PKDD 2021 Outstanding Reviewer Award @ Science of Computer Programming, Elsevier, June 2017 Invited Case Study Paper @ ABZ 2016 PostDoc Fellowship Offer @ Simula Research Lab, Oslo, Norway, 2011 (Declined)
Degrees	Sc.D. (Habilitation) in Software Engineering (Sep 2022) Johannes Kepler University, Linz, Austria Thesis: Rigorous Model-Driven Engineering of Software-Intensive Safety-Critical Systems Keywords: Model-Driven Engineering, Formal Methods, Event-B, ASMs Reviewers: Prof. Dr. Olga Kouchnarenko (FR), Prof. Dr. Michael Butler (UK) & Prof. Dr. Michael Felderer (DE) URL: https://epub.jku.at/obvulihs/content/titleinfo/8307333 Ph.D. in Computer Science (Jul 2011) INRIA/LORIA, University of Lorraine, Nancy, France Thesis: Formal Domain Engineering: From Specification to Validation Keywords: Requirements Engineering, Formal Methods, Event-B Advisors: Assoc. Prof. Dr. Jean-Pierre Jacquot (FR) & Prof. Dr. Jeanine Souquières (FR) Reviewers: Prof. Dr. Marie-Laure Potet (FR) & Prof. Dr. Marc Frappier (CA) Examiners: Prof. Dr. Maritta Heisel (DE) & Prof. Dr. Patrick Heymans (BE) URL: https://theses.hal.science/tel-00614269v2/document

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Postgraduate Studies in Computational Linguistics (Dec 2006)

GRLMC, Rovira i Virgili University, Tarragona, Spain

Thesis: KDD & Data Mining: An Overview

Keywords: Data Mining, Artificial Intelligence

M.S. in Computer Science (Jun 2004)

Umeå University, Umeå, Sweden

Thesis: Investigating Model-Driven Architecture

Keywords: Software Analysis, Software Design, Software Architecture, UML

B.S. in Computer Science (Honors)(Aug 2002)

BIIT, PMAS-Arid Agriculture University, Rawalpindi, Pakistan

Project: TeleHelp: A Java-based Interactive Voice Response System

Keywords: Java (JTA, JSA, JDB), Oracle, UML

Work Experience

GRAND VALLEY STATE UNIVERSITY, MICHIGAN, USA

Associate Professor

College of Computing (August 2025 - Present)

Research and supervision of graduate and postgraduate students

- CIS 350 - Introduction to Software Engineering, 3.0 ECTS, FS 2026

URL: <https://www.gvsu.edu/shorthand/story/coc-introducing-our-new-faculty/>

FRONIUS INTERNATIONAL, AUSTRIA

Requirements & Process Manager (Nov 2023 - Present)

Business Unit Solar & Energy

Led cross-functional engineering process design and integration activities, optimizing workflows that improved system-level coordination and reduced delivery friction across development and integration teams

Managed a 15-member team under the Requirements Engineering & Workflow Optimization (REWO) project, defining scope, timelines, and dependencies; implemented structured risk and issue management, accelerating delivery of AI-enabled product features

Implemented V-Model-aligned Jira workflows, reducing ticket noise by 33% and cutting linking complexity by 75%, enabling faster triage and improved sprint predictability

Reengineered requirements handover between Sales/Marketing and R&D, reducing requirement errors by up to 50% and improving system integration readiness
Delivered the Confluence-based Library of System Specifications (LiSS), enabling consistent, traceable, and integration-ready system specifications for engineering teams

Communicated project status and critical risks to senior leadership, driving alignment, removing blockers, and ensuring milestone adherence

JOHANNES KEPLER UNIVERSITY, LINZ, AUSTRIA

Docent (Equivalent to Associate Professor)

LIT Secure & Correct Systems Lab (Feb 2019 - Sep 2024)

Institute of Software Systems Engineering (Nov 2017 - Sep 2024)

Supervision of bachelors, masters, and doctoral students

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Teaching & research

In order to fulfill the teaching obligation, I have taught following courses at post- and under-graduate levels. The teaching obligations also included responsibilities like module development, lecture preparation, lecture delivery, lab work setting, exam writing, grading, etc. Each class has maximum 35 students.

- 343.006 - Seminar in Software Engineering, 3.0 ECTS, WS 2023
- 343.050 - Engineering of AI-Intensive Systems, 3.0 ECTS, SS 2023
- 343.006 - Seminar in Software Engineering, 3.0 ECTS, WS 2022
- 343.350 - Engineering of Software-Intensive Systems, 3.0 ECTS, SS 2022
- 343.303 - Software Engineering (Exercises), 1.5 ECTS, WS 2021
- 343.006 - Seminar in Software Engineering, 3.0 ECTS, WS 2021
- 343.350 - Engineering of Software-Intensive Systems, 3.0 ECTS, SS 2020
- 343.302 - Software Engineering (Exercises), 1.5 ECTS, WS 2019
- 343.302 - Software Engineering (Exercises), 1.5 ECTS, WS 2018
- 343.303 - Software Engineering (Exercises), 1.5 ECTS, WS 2018
- 343.350 - Engineering of Software-Intensive Systems, 3.0 ECTS, SS 2018

PAK-AUSTRIA FACHHOCHSCHULE: INSTITUTE OF APPLIED SCIENCES & TECHNOLOGY (PAF-IAST), HARIPUR, PAKISTAN **Foreign Faculty (Oct 2020 - Sep 2022) (part time)**

Focal person for international collaborations

Curriculum development for the Master's in AI program

Sino-Pak Center for Artificial Intelligence

Managing Director (Oct 2020 - Sep 2022) (part time)

Mentoring and administration of the research staff

Steering and facilitation of research projects

Development of (inter-)national industrial and academic liaisons

Supervision for active participation of the center in the associated technology park of PAF-IAST with innovative product development and commercialization programs

Member of the SPCAI's International Advisory Board

SOFTWARE COMPETENCE CENTER HAGENBERG GMBH, AUSTRIA **Scientific Head (Aug 2012 - Dec 2017)**

Research Focus: Rigorous Methods in Software Engineering (RSE)

Initiation, coordination, management, and development of research ideas, proposals and projects

Organization of and participation in scientific and industrial dissemination activities

Mentoring and administration of the research staff

Development of industrial and academic liaisons

Member of SCCH's Scientific Advisory Board, Strategy Board & Science Forum

Industrial Researcher (Oct 2011 - Sep 2020)

As an industrial researcher, I have participated in the following projects:

- SoftNet II (2011-2012)

This FFG funded K project was about the development and deployment of novel tools and techniques for next generation software quality assurance and improvement methods. I applied rigorous methods in the development part.

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- Vertical Model Integration (VMI) (2012-2013)

This EU (EFRE) project was about the purification of the BPMN 2.0 standard by providing a rigorous specification of the semantics of BPMN process diagrams based on the Abstract State Machines (ASM) method. I was part of the specification team applying the ASM method.

- Vertical Model Integration 4.0 (VMI 4.0) (2014)

This EU (EFRE) project was the continuation of the VMI project to address the related needs raised in the Industry 4.0 initiative. I was responsible for aligning the needs of the Industry 4.0 initiative w.r.t. software-intensive critical systems.

- Validation of Medical Programmable Systems using Industrial Rigorous Engineering Methods (VAMPIRE) (2014) (**Project leader**)

The overall aim of this COMET project was to formally model and analyze requirements of hemodialysis machines. I was the project leader as well as the lead modeler (Industrial partner: B. Braun Medical Hungary).

- Adaptive and Reliable Process-based Systems (ARProSys) (2015-2016) (**Project leader**)

This COMET project was the continuation of the VAMPIRE project. The core topic of the project was the generation of code artifacts from formal requirements models of hemodialysis machines. Apart from being the project leader, I was also part of the formal modeling team. (Industrial partner: B. Braun Medical Hungary).

- Integration of Rigorous Methods and Tools (IntegR) (2015-2018) (**Project leader**)

The overall aim of this strategic COMET project was to define commonalities and variabilities between various rigorous methods, and development of methodologies and tools for their harmonious integration. I was working within the project as the principal investigator.

- Behavioral Logics of Distributed Adaptive Systems (BLogDAS) (2016-2017)

The overall aim of this FWF project was to develop solid scientific foundations capturing all aspects of distributed adaptive systems in a step-by-step approach. I was responsible for investigating the adaptive systems within the medical domain.

- Strategic Research in Software Engineering (StraSE) (2019-2020)

In this strategic project, I have lead research on functional safety, cybersecurity and their interplay, and AI-inspired engineering, analytic and evolution of model-driven software-intensive systems.

- Several Innovation Checks and Innovation Checks Plus

UNIVERSITY OF LORRAINE, NANCY, FRANCE

Assistant Professor (Sep 2010 - Aug 2011)

As an assistant professor, I have taught following courses to undergraduate students:

- Programming Environments: Linux Shell Programming
- Data Structures using Java
- Computer Logistics

Research Associate (Jun 2007 - Aug 2010)

As a research associate, I have worked on the following projects:

- Trustworthy Assembling of Components: From Requirements to Specification (TACOS) (2007-2010)

This ANR project was about the development of component-based systems using formal engineering method Event-B that demonstrates the trustworthiness of systems throughout the development process in a stepwise manner. I was part of the formal modeling and verification team.

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- **CRISTAL (2007-2010)**

This project financed by Pôle de Compétitivité Alsace/Franche-Comté was about the development of innovative components of electric transportation and mobility systems. The resultant electric vehicles offer users mobility, either as an individual alternative for their own vehicle in town, or as a part of a platoon: several vehicles are coupled together through immaterial connections and move as an automated convoy. I was part of the formal modeling and verification team.

UNIVERSITY OF MINHO, BRAGA, PORTUGAL

Research Associate (Jan 2007 - May 2007)

As a research associate, I have worked on the following project:

- **Development of Software with Aspects (SOFTAS) (2007)**

This FCT project aimed at inventing a seamless Aspect-Oriented Software Development process by focusing on the definition of a complete software methodology covering all the development stages, so that crosscutting and non-crosscutting concerns can be traced during the life cycle to produce efficient and high-quality software applications. The research results were instantiated in practice with real world examples from industry. I applied the project results to the FPL tower interface system – the system responsible for communication between air traffic control operators and the flight data processing system on airports in Portugal.

COMSATS Institute of IT, Islamabad, Pakistan

Lecturer (Jan 2006 - Apr 2006)

As a lecturer, I have taught the following course to undergraduate students:

- **Software Engineering I**

National University of Modern Languages, Islamabad, Pakistan

Lecturer (Jan 2003 - Dec 2005)

As a lecturer, I have taught the following courses to undergraduate students:

- **Object Oriented Analysis & Design using UML**
- **Object Oriented Programming using Java**
- **Modern Programming Languages using VC#**
- **Introduction to Information Technology**

Research Grants

IVoiRe (Integration of Validation into a Refinement-based Rigorous Development Process)

Budget: **~650,000 Euros**

Role: Principal Investigator

Co-applicants: Prof. Dr. Michael Leuschel (HHU) & Prof. Dr. Alexandeg Egyed (JKU)

Funding agency: Austrian Science Fund (FWF)

Funding scheme: DACH (in cooperation with DFG)

Time frame: Oct 2020 - Sep 2024

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AISE (Artificial Intelligence 4 Software Engineering)

Budget: Three fully-funded year-long PostDoc positions ~**216,000 Euros**

Role: Principal Investigator

Co-applicants: Prof. Dr. Alexandeg Egyed (JKU) & Priv.-Doz. Dr. Bernhard Moser (SCCH)

Funding agency: Pak-Austria Fachhochschule: Institute of Applied Sciences & Technology (PAF-IAST)

Funding scheme: Pak-Austria Collaboration Fund

Time frame: Oct 2021 - Sep 2022

SmaPro2 (Smart Production 2.0 - Qualification Network for Cyber-Physical Production Systems)

Role: Responsible for the Software Security and Safety module with Assoc. Prof. Dr. Johannes Sametinger (JKU)

Funding agency: European Union

Funding scheme: Innovative Upper Austria 2020

Time frame: Jan 2018 - Dec 2020

ARProSys (Adaptive and Reliable Process-based Systems)

Budget: ~**140,000 Euros**

Role: Principal Investigator

Funding agency: Austrian Research Promotion Agency (FFG) and B. Braun Medical Hungary

Funding scheme: COMET

Time frame: Jan 2015 - Dec 2016

VAMPIRE (Validation of Medical Programmable Systems using Industrial Rigorous Engineering Methods)

Budget: ~**60,000 Euros**

Role: Principal Investigator

Funding agency: Austrian Research Promotion Agency (FFG) and B. Braun Medical Hungary

Funding scheme: COMET

Time frame: Jan 2014 - Dec 2014

PostDoc
Mentoring

1. Dr. Waqar Mehmood, AISE Project (2021 - 2022) (Later Associate Professor @ Pak-Austria Fachhochschule: Institute of Applied Sciences & Technology, Pakistan)
2. Dr. Maqbool Khan, AISE Project (2021 - 2022) (Later Assistant Professor @ Pak-Austria Fachhochschule: Institute of Applied Sciences & Technology, Pakistan)
3. Dr. Arshad Ahmad, AISE Project (2021 - 2022) (Later Assistant Professor @ Pak-Austria Fachhochschule: Institute of Applied Sciences & Technology, Pakistan)

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Ph.D. Supervision

1. Christian Schlager, Title: Assessment of Cybersecurity Processes in the Automotive Sector, Johannes Kepler University, Linz, Austria (2025-2028)
2. Felix Schaber, Title: Modeling of Cyber-Physical Railway Systems, With Prof. Michael Leuschel, Heinrich Heine University, Düsseldorf, Germany (2024-2027)
3. Sebastian Stock, Title: Early and Systematic Validation of Formal Models, Johannes Kepler University, Linz, Austria (2021-2024) (Later System Engineer @ KNDS Deutschland)
4. Saad Shafiq, Title: Supporting the Triaging Process in Software Development, With Prof. Alexander Egyed, Johannes Kepler University, Linz, Austria (2019-2022) (Later PostDoc @ University of Southern California, USA)
5. Michael Tröls, Title: Instant Distribution of Consistency-relevant Change Information in a Hierarchical Multi-Developer Engineering Environment, With Prof. Alexander Egyed, Johannes Kepler University, Linz, Austria (2017-2021) (Later Game Developer and Owner of Rat Tower Software)
6. Sarah Benyaghoub, Title: Vers une évolution cohérente des systèmes dynamiques à partir des méthodes formelles, With Prof. Yamine Ait-Ameur, ENSEEIHT, Toulouse, France (2016-2019) (Later PostDoc @ University of Toulouse, France)
7. Silvia Bonfanti, Title: Rigorous Model-Based Development of Programmable Electronic Medical Systems (PEMS): From Requirements to Code, With Prof. Angelo Gargantini, University of Bergamo, Italy (2014-2017) (Later PostDoc @ University of Bergamo, Italy)

Publications **Edited Books**

1. B. Moser, L. Fischer, A. Mashkoor, J. Sametinger, A. C. Glock, M. Mayr and S. Luftensteiner: *Database and Expert Systems Applications - DEXA 2024 Workshops - 35th International Conference*, CCIS 2169, Springer, 2024
2. G. Kotsis, A. Tjoa, I. Khalil, B. Moser, A. Mashkoor, J. Sametinger and M. Khan: *Database and Expert Systems Applications - DEXA 2023 Workshops - 34th International Conference*, CCIS 1872, Springer, 2023
3. G. Kotsis, A. Tjoa, I. Khalil, B. Moser, A. Taudes, A. Mashkoor, J. Sametinger, J. Gil, F. Sobieczky, L. Fischer, R. Ramler, M. Khan and G. Czech: *Database and Expert Systems Applications - DEXA 2022 Workshops - 33rd International Conference*, CCIS 1633, Springer, 2022
4. G. Kotsis, A. Tjoa, I. Khalil, B. Moser, A. Mashkoor, J. Sametinger, A. Fensel, J. Gil, L. Fischer, G. Czech, F. Sobieczky and S. Khan: *Database and Expert Systems Applications - DEXA 2021 Workshops - BIODKDD, IWCFs, MLKgraphs, AI-CARES, ProTime, AISys*, CCIS 1479, Springer, 2021
5. G. Kotsis, A. Tjoa, I. Khalil, L. Fischer, B. Moser, A. Mashkoor, J. Sametinger, A. Fensel and J. Gil: *Database and Expert Systems Applications - DEXA 2020 International Workshops BIODKDD, IWCFs and MLKgraphs*, CCIS 1285, Springer, 2020
6. G. Kotsis, A. Tjoa, I. Khalil, M. Elloumi, A. Mashkoor, J. Sametinger, X. Larrucea, A. Fensel, J. Gil, C. Seifert, B. Stein and M. Granitzer: *Database and Expert Systems Applications - DEXA 2019 International Workshops BIODKDD, IWCFs, MLKgraphs and TIR*, CCIS 1062, Springer, 2019
7. A. Mashkoor, B. Thalheim and Q. Wang, *Models: Concepts, Theory, Logic, Reasoning and Semantics*, College Publications, 2018

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8. M. Butler, K. D. Schewe, A. Mashkoor and M. Biró, *5th International Conference on ASMs, Alloy, B, TLA, VDM, and Z (ABZ'16)*, LNCS 9675, Springer, 2016

Edited Special Issues of Internationally Peer-reviewed Journals & Magazines

1. M. Biro, A. Mashkoor and J. Sametinger, *Safety and Security of Cyber-Physical Systems*, Journal of Software: Evolution and Process, Volume 35, Issue 7, Wiley, Jul 2023
2. A. Mashkoor, T. Menzies, A. Egyed and R. Ramler, *Artificial Intelligence and Software Engineering: Are We Ready?* Computer, Volume 55, Issue 3, IEEE, Mar 2022
3. M. Biró, A. Mashkoor and J. Sametinger, *Safe and Secure Cyber-Physical Systems*, Journal of Software: Evolution and Process, Volume 33, Issue 9, Wiley, Sep 2021
4. A. Mashkoor, P. Arcaini and A. Gargantini, *Intelligent Autonomous Systems*, Computer, Volume 53, Issue 12, IEEE, Dec 2020
5. A. Mashkoor, J. Sametinger, M. Biró and A. Egyed, *Security- and Safety-critical Cyber-Physical Systems*, Journal of Software: Evolution and Process, Volume 32, Issue 2, Wiley, Feb 2020
6. A. Mashkoor, M. Biró, R. Messnarz and R. Colomo-Palacios, *Selected Functional Safety and Cybersecurity Concerns in System, Software, and Service Process Improvement and Innovation*, Journal of Software: Evolution and Process, Volume 30, Issue 5, Wiley, May 2018
7. M. Biró, A. Mashkoor, J. Sametinger and R. Seker, *Software Safety and Security Risk Mitigation in Cyber-Physical Systems*, Software, Volume 35, Issue 1, IEEE, Jan-Feb 2018

Internationally Peer-reviewed Book Chapters

1. J. P. Jacquot and A. Mashkoor, The Role of Validation in Refinement-Based Formal Software Development, *Models: Concepts, Theory, Logic, Reasoning, and Semantics*, pp. 202-219, College Publications, 2018
2. V. Geist, F. Kossak, C. Natschläger, C. Illbauer, T. Ziebermayr and A. Mashkoor, Towards a Homogenous Framework for Integrating Process, Actor, Dialogue and Data Models, *Models: Concepts, Theory, Logic, Reasoning, and Semantics*, pp. 220-241, College Publications, 2018
3. A. Buga, S. T. Nemes, and A. Mashkoor, Addressing Client Needs for Cloud Computing using Formal Foundations, *Models: Concepts, Theory, Logic, Reasoning, and Semantics*, pp. 264-287, College Publications, 2018

Internationally Peer-reviewed Journal Articles

1. D. Geleßus, S. Stock, F. Vu, M. Leuschel and A. Mashkoor, Development and Validation of a Formal Model and Prototype for an Air Traffic Control System, *Formal Aspects of Computing*, 35(1):7, ACM, 2026
2. S. Stock, J. Dunkelau and A. Mashkoor, Application of AI to Formal Methods — An Analysis of Current Trends, *Empirical Software Engineering*, 30(6):175, Springer, 2025
3. A. Kousar, S.U.R. Khan, A. Mashkoor and J. Iqbal, A Systematic Literature Review on Graphical User Interface Testing Through Software Patterns, *IET Software*, 2025(1):9140693, Wiley, 2025
4. A. Taskeen, S.U.R. Khan and A. Mashkoor, An Adaptive Synthetic Sampling and Batch Generation-oriented Hybrid Approach for Addressing Class Imbalance Problem in Software Defect Prediction, *Soft Computing*, 28(23):13595-13614, Springer, 2024
5. S. Shafiq, C. Mayr-Dorn, A. Mashkoor and A. Egyed, Balanced Knowledge Distribution among Software Development Teams - Observations from Open- and Closed-Source Software Development, *Journal of Software: Evolution and Process*, 36(8):e2655, Wiley, 2024

6. A. Mashkoor, W.K.G. Assunção and A. Egyed, Teaching Engineering of AI-intensive Systems, *Software*, 41(2):30-35, IEEE, 2024 (**Invited for J1 Presentation @ CSEE&T 2024**)
7. M. Ali, S.U.R. Khan, A. Mashkoor and A. Taskeen, A Conceptual Framework for Context-Driven Self-Adaptive Intelligent User Interface based on Android, *Cognition, Technology & Work*, 26(1):83-106, Springer, 2024
8. H. Zafar, S.U.R. Khan, A. Mashkoor and H.U. Nisa:, MOBICAT: A Model-Driven Engineering Approach for Automatic GUI Code Generation for Android Applications, *Frontiers in Computer Science*, 6, Frontiers, 2024
9. S. Stock, A. Mashkoor, M. Leuschel and A. Egyed, Trace Behavior Preservation in B and Event-B Refinements, *Journal of Logical and Algebraic Methods in Programming*, 137:100943, Elsevier, 2024 (**Invited Paper**)
10. M.I. Azeem, S. Shafiq, A. Mashkoor and A. Egyed, Code Smells in Pull Requests: An Exploratory Study, *Software: Practice and Experience*, 54(3):419-436, Wiley, 2024
11. A. Mashkoor, A. Egyed, R. Wille and S. Stock, Model-driven Engineering of Safety and Security Software Systems: A Systematic Mapping Study and Future Research Directions, *Journal of Software: Evolution and Process*, 35(7):e2457, Wiley, 2023
12. S. Abusaeed, S.U.R. Khan and A. Mashkoor, A Fuzzy AHP-based Approach for Prioritization of Cost Overhead Factors in Agile Software Development, *Applied Soft Computing*, 133:109977, Elsevier, 2023
13. M. Biro, A. Mashkoor and J. Sametinger, Safety and Security of Cyber-Physical Systems, *Journal of Software: Evolution and Process*, 35(7):e2522, Wiley, 2023
14. M. Tröls, L. Marchezan, A. Mashkoor and A. Egyed, Instant and Global Consistency Checking during Collaborative Engineering, *Software and Systems Modeling*, 21:2489-2515, Springer, 2022
15. A. Mashkoor, T. Menzies, A. Egyed and R. Ramler, Artificial Intelligence and Software Engineering: Are We Ready? *Computer*, 55(3):24-28, IEEE, 2022
16. S. Shafiq, A. Mashkoor, C. Mayr-Dorn and A. Egyed, A Literature Review of Using Machine Learning in Software Development Life Cycle Stages, *Access*, 9:140896-140920, IEEE, 2021
17. M. Biró, A. Mashkoor and J. Sametinger, Safe and Secure Cyber-Physical Systems, *Journal of Software: Evolution and Process*, 33(9):e2340, Wiley, 2021
18. M. Tröls, A. Mashkoor, A. Demuth and A. Egyed, Ensuring Safe and Consistent Co-engineering of Cyber-Physical Production Systems: A Case Study, *Journal of Software: Evolution and Process*, 33(9):e2308, Wiley, 2021
19. A. Mashkoor and A. Egyed, Evaluating the Alignment of Sequence Diagrams with System Behavior, *Procedia Computer Science*, 180:502-506, Elsevier, 2021
20. A. Mashkoor, J. Sametinger, M. Biró and A. Egyed, Security- and Safety-critical Cyber-Physical Systems, *Journal of Software: Evolution and Process*, 32(2):e2239, Wiley, 2020
21. A. Mashkoor, P. Arcaini and A. Gargantini, Intelligent Autonomous Systems, *Computer* 53(12):20-23, IEEE, 2020
22. S. Bonfanti, A. Gargantini and A. Mashkoor, Design and Validation of a C++ Code Generator from Abstract State Machines Specifications, *Software: Evolution and Process* 32(2):e2209, Wiley, 2020
23. S. Benyagoub, Y. Ait Ameer, M. Ouederni, A. Mashkoor and A. Medeghri, Formal Design of Scalable Conversation Protocols using Event-B: Validation, Experiments, and Benchmarks, *Software: Evolution and Process* 32(2):e2205, Wiley, 2020
24. A. Mashkoor, F. Kossak and E. Egyed, Evaluating the Suitability of State-based Formal Methods for Industrial Deployment, *Software: Practice and Experience* 48(12):2350-2379, Wiley, 2018

25. A. Buga, A. Mashkoor, S. T. Nemes, K. D. Schewe and P. Songprasop, An Event-B-Based Approach to Hybrid Systems Engineering and its Application to a Hemodialysis Machine Case Study, *Computer Languages, Systems & Structures* 54:297-315, Elsevier, 2018
26. S. Bonfanti, A. Gargantini and A. Mashkoor, A Systematic Literature Review of the Use of Formal Methods in Medical Software Systems, *Software: Evolution and Process* 30(5):e1943, Wiley, 2018
27. M. Biró, A. Mashkoor, J. Sametinger and R. Seker, Software Safety and Security Risk Mitigation in Cyber-Physical Systems, *Software* 35(1):24-29, IEEE, 2018
28. A. Mashkoor, M. Biró, R. Messnarz and R. Colomo-Palacios, Selected Functional Safety and Cybersecurity Concerns in System, Software, and Service Process Improvement and Innovation, *Software: Evolution and Process* 30(5):e1955, Wiley, 2018
29. P. Arcaini, S. Bonfanti, A. Gargantini, A. Mashkoor and E. Riccobene, Integrating Formal Methods into Medical Software Development: The ASM approach, *Science of Computer Programming* 158:148-167, Elsevier, 2018
30. B. Shahzad, A. Abdullatif, N. Ikram and A. Mashkoor, Build Software or Buy: A Study on Developing Large Scale Software, *Access* 5:24262-24274, IEEE, 2017
31. B. Shahzad, I. Lali, M. S. Nawaz, W. Aslam, R. Mustafa and A. Mashkoor, Discovery and Classification of User Interests on Social Media, *Information Discovery and Delivery* 45(3):130-138, Emerald, 2017
32. A. Mashkoor and J. P. Jacquot, Refinement-based Validation of Event-B Specifications, *Software and Systems Modeling* 16(3):789-808, Springer, 2017
33. A. Mashkoor and J. P. Jacquot, Validation of Formal Specifications through Transformation and Animation, *Requirements Engineering* 22(4):433-451, Springer, 2017
34. A. Mashkoor and M. Biró, Towards the Trustworthy Development of Active Medical Devices: A Hemodialysis Case Study, *Embedded Systems Letters* 8(1):14-17, IEEE, 2016
35. A. Mashkoor, Model-Driven Development of High-Assurance Active Medical Devices, *Software Quality Journal* 24(3):571-596, Springer, 2016
36. A. Mashkoor and J. P. Jacquot, Utilizing Event-B for Domain Engineering: A Critical Analysis, *Requirements Engineering* 16(3):191-207, Springer, 2011

Invited Conference Papers

1. A. Mashkoor, W. Assunção and A. Egyed: Teaching Engineering of AI-intensive Systems, *36th International Conference on Software Engineering Education and Training (CSEE&T)*, IEEE, 2024
2. A. Mashkoor, The Hemodialysis Machine Case Study, *5th International Conference on ASMs, Alloy, B, TLA, VDM and Z (ABZ'16)*, Springer, pp. 329-343, 2016

Internationally Peer-reviewed Conference & Workshop Publications

1. F. Schaber, A. Mashkoor and M. Leuschel: Promise-Driven Modeling: A Structured Approach for Modeling Cyber-Physical Systems, *30th International Conference on Formal Methods for Industrial Critical Systems (FMICS)*, Springer, pp. 185-202, 2025
2. S. Stock, M. Leuschel and A. Mashkoor: Failure Divergence Refinement for Event-B, *18th International Symposium on Theoretical Aspects of Software Engineering (TASE)*, Springer, pp. 85-103, 2025
3. F. Schaber, A. Mashkoor and M. Leuschel: Towards a Novel Approach to Railway Safety Using STPA and Promise Theory, *International Symposium on Software Fault Prevention, Verification, and Validation (SFPVV)*, Springer, pp. 263-279, 2024

4. A. Preda, C. Mayr-Dorn, A. Mashkoor and A. Egyed: Supporting High-Level to Low-Level Requirements Coverage Reviewing with Large Language Models, *The 21st International Conference on Mining Software Repositories (MSR)*, ACM, pp. 242-253, 2024
5. A. Preda, C. Mayr-Dorn, A. Mashkoor, W. Assunção and A. Egyed: Towards Leveraging Fine-Grained Dependencies to Check Requirements Traceability Correctness, *ICSE Companion*, ACM, pp. 292-293, 2024
6. S. Khan, U. Aslam, A. Mashkoor, I. Inayat and H. Nisa: An Automated Ontology-Based Requirements Traceability Technique in Agile Software Development Context, *DEXA Workshops (IWCFS)*, Springer, pp. 29-43, 2024
7. M. Azeem, S. Khan, A. Mashkoor, A. Yousafzai and H. Nisa: Assessing the Maturity of Blockchain-Based Implementations with Software Reliability Growth Models, *DEXA Workshops (IWCFS)*, Springer, pp. 14-28, 2024
8. M. Asmat, S. Khan, A. Mashkoor and I. Inayat: A Context Ontology-Based Model to Mitigate Root Causes of Uncertainty in Cyber-Physical Systems, *DEXA Workshops (IWCFS)*, Springer, pp. 45-56, 2023
9. S. Stock, F. Vu, D. Geleßus, M. Leuschel, A. Mashkoor and A. Egyed: Validation by Abstraction and Refinement, *9th International Conference on Rigorous State-Based Methods (ABZ)*, Springer, pp. 160-178, 2023
10. S. Stock, A. Mashkoor and A. Egyed: Validation-Driven Development, *ICFEM*, Springer, pp. 191-207, 2023 (**Best Paper Award**)
11. D. Geleßus, S. Stock, F. Vu, M. Leuschel and A. Mashkoor: Modeling and Analysis of a Safety-Critical Interactive System Through Validation Obligations, *9th International Conference on Rigorous State-Based Methods (ABZ)*, Springer, pp. 284-302, 2023
12. S. Stock, A. Mashkoor and A. Egyed: Application of Validation Obligations to Security Concerns, *DEXA Workshops (IWCFS)*, Springer, pp. 337-346, 2022
13. S. Stock, A. Mashkoor, M. Leuschel and A. Egyed: Trace Refinement in B and Event-B, *ICFEM*, Springer, pp. 316-333, 2022 (**Invited for Journal Extension**)
14. M. Hammoudi, C. Mayr-Dorn, A. Mashkoor and A. Egyed: TraceRefiner: An Automated Technique for Refining Coarse-Grained Requirement-to-Class Traces, *APSEC*, IEEE, pp. 12-21, 2021
15. F. Vu, M. Leuschel and A. Mashkoor: Validation of Formal Models by Timed Probabilistic Simulation, *8th International Conference on Rigorous State-Based Methods (ABZ)*, Springer, pp. 81-96, 2021
16. D. Geleßus, S. Stock, F. Vu, M. Leuschel and A. Mashkoor: Modeling and Analysis of a Safety-Critical Interactive System Through Validation Obligations, *9th International Conference on Rigorous State-Based Methods (ABZ)*, Springer, pp. 284-302, 2023
17. S. Stock, A. Mashkoor and A. Egyed: Application of Validation Obligations to Security Concerns, *DEXA Workshops (IWCFS)*, Springer, pp. 337-346, 2022
18. S. Stock, A. Mashkoor, M. Leuschel and A. Egyed: Trace Refinement in B and Event-B, *ICFEM*, Springer, pp. 316-333, 2022
19. M. Hammoudi, C. Mayr-Dorn, A. Mashkoor and A. Egyed: TraceRefiner: An Automated Technique for Refining Coarse-Grained Requirement-to-Class Traces, *APSEC*, IEEE, pp. 12-21, 2021
20. F. Vu, M. Leuschel and A. Mashkoor: Validation of Formal Models by Timed Probabilistic Simulation, *8th International Conference on Rigorous State-Based Methods (ABZ)*, Springer, pp. 81-96, 2021
21. M. Asmat, S. Khan and A. Mashkoor: A Conceptual Model for Mitigation of Root Causes of Uncertainty in Cyber-Physical Systems, *DEXA Workshops (IWCFS)*, Springer, pp. 9-17, 2021

22. S. Shafiq, A. Mashkoor, C. Mayr-Dorn and A. Egyed: NLP4IP: Natural Language Processing-based Recommendation Approach for Issues Prioritization, *SEAA*, IEEE, pp. 99-108, 2021
23. A. Mashkoor, M. Leuschel and A. Egyed: Validation Obligations: A Novel Approach to Check Compliance between Requirements and their Formal Specification, *ICSE (NIER)*, IEEE, pp. 1-5, 2021
24. M. Tröls, A. Mashkoor and A. Egyed: Team-Oriented Consistency Checking of Heterogeneous Engineering Artifacts, *ICSE (Companion Volume)*, IEEE, pp. 250-251, 2021
25. S. Shafiq, A. Mashkoor, C. Mayr-Dorn and A. Egyed: TaskAllocator: A Recommendation Approach for Role-based Tasks Allocation in Agile Software Development, *ICGSE/ICSSP*, IEEE, pp. 39-49, 2021
26. U. Ashraf, C. Mayr-Dorn, A. Mashkoor, A. Egyed and S. Panichella: Do Communities in Developer Interaction Networks align with Subsystem Developer Teams? An Empirical Study of Open Source Systems, *ICGSE/ICSSP*, IEEE, pp. 61-71, 2021
27. M. Tröls, A. Mashkoor and A. Egyed: Timestamp-based Consistency Checking of Collaboratively Developed Engineering Artifacts, *ICGSE/ICSSP*, IEEE, pp. 72-82, 2021 (**Best Paper Award**)
28. M. Tröls, A. Mashkoor and A. Egyed: Hierarchical Distribution of Consistency-relevant Changes in a Collaborative Engineering Environment, *ICGSE/ICSSP*, IEEE, pp. 83-93, 2021
29. M. Hammoudi, C. Mayr-Dorn, A. Mashkoor and A. Egyed: A Traceability Dataset for Open Source Systems, *MSR*, IEEE, pp. 555-559, 2021
30. M. Hammoudi, C. Mayr-Dorn, A. Mashkoor and A. Egyed: On the effect of incompleteness to check requirement-to-method traces, *SAC*, ACM, pp. 1465-1474, 2021
31. M. Tröls, A. Mashkoor and A. Egyed: Instant distribution of consistency-relevant change information in a hierarchical multi-developer engineering environment, *SAC*, ACM, pp. 1572-1575, 2021
32. S. Shafiq, C. Mayr-Dorn, A. Mashkoor and A. Egyed: Towards Optimal Assembly Line Order Sequencing with Reinforcement Learning: A Case Study, *25th International Conference on Emerging Technologies and Factory Automation (ETFA'20)*, IEEE, pp. 982-989, 2020
33. M. Zahid, I. Inayat, A. Mashkoor and Z. Mehmood, Security Risk Mitigation of Cyber Physical Systems: A Case Study of a Flight Simulator, *DEXA Workshops (IWCFs'19)*, Springer, pp. 129-138, 2019
34. M. Tröls, A. Mashkoor and A. Egyed, Collaboratively Enhanced Consistency Checking in a Cloud-based Engineering Environment, *The 11th Symposium on Engineering Interactive Computing Systems (EICS'19)*, ACM, pp. 15:1-15:6, 2019
35. M. Tröls, A. Mashkoor and A. Egyed, Live and Global Consistency Checking in a Collaborative Engineering Environment, *34th Symposium on Applied Computing (SAC'19)*, ACM, pp. 1776-1785, 2019
36. M. Tröls, A. Mashkoor and A. Egyed, Multifaceted Consistency Checking of Collaborative Engineering Artifacts, *MODELS Companion*, IEEE, pp. 278-287, 2019
37. S. Benyagoub, Y. Ait-Ameur, M. Ouederni and A. Mashkoor, Scalable Correct-by-Construction Conversation Protocols with Event-B: Validation, Experiments and Benchmarks, *23rd International Conference on Engineering of Complex Computer Systems (ICECCS'18)*, IEEE, pp. 209-212, 2018
38. S. Benyagoub, Y. Ait-Ameur, M. Ouederni and A. Mashkoor, Handling Reparation in Incremental Construction of Realizable Choreographies, *2nd International Workshop on Cybersecurity and Functional Safety in Cyber-Physical Systems (IWCFs'18)*, Springer, pp. 159-166, 2018
39. S. Bonfanti, A. Gargantini and A. Mashkoor, Generation of Behavior-Driven Development C++ Tests from Abstract State Machine Scenarios, *2nd International Workshop on Cybersecurity and Functional Safety in Cyber-Physical Systems (IWCFs'18)*, Springer, pp. 146-152, 2018

40. S. Bonfanti, A. Gargantini and A. Mashkoor, Validation of Code Transformation from Abstract State Machine Models to C++ Code, *30th IFIP International Conference on Testing Software and Systems (ICTSS'18)*, Springer, pp. 17-32, 2018
41. S. Bonfanti, A. Gargantini and A. Mashkoor, Generation of C++ Unit Tests from Abstract State Machines Specifications, *ICST Workshops 2018*, IEEE, pp. 185-193, 2018
42. A. Mashkoor and A. Egyed, Analysis of Experiences with the Engineering of a Medical Device using State-based Formal Methods, *18th International Conference on Software Quality, Reliability and Security (QRS'18)*, IEEE, pp. 75-82, 2018
43. A. Mashkoor, F. Kossak, M. Biró and A. Egyed, Model-driven Re-engineering of a Pressure Sensing System: An Experience Report, *14th European Conference on Modelling Foundations and Applications (ECMFA'18)*, Springer, pp. 264-278, 2018
44. S. Bonfanti, A. Gargantini and A. Mashkoor, AsmetaA: Animator for Abstract State Machines, *6th International Conference on ASMs, Alloy, B, TLA, VDM and Z (ABZ'18)*, Springer, pp. 369-373, 2018
45. S. Benyagoub, M. Ouederni, Y. Ait-Ameur and A. Mashkoor, Incremental Construction of Realizable Choreographies, *10th NASA Formal Methods Symposium (NFM'18)*, Springer, pp. 1-19, 2018
46. S. Khan, O. Hasan and A. Mashkoor, Formal Verification and Safety Assessment of a Hemodialysis Machine, *44th International Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM'18)*, Springer, pp. 241-254, 2018
47. A. Buga, A. Mashkoor, T. Nemes, K. D. Schewe and P. Songprasop, Conceptual Modelling of Hybrid Systems – Structure and Behavior, *7th International Conference on Model and Data Engineering (MEDI'17)*, Springer, pp. 277-290, 2017
48. S. Bonfanti, M. Carisconi, A. Gargantini and A. Mashkoor, Asm2C++: a tool for Code Generation from Abstract State Machines to Arduino, *9th NASA Formal Methods Symposium (NFM'17)*, Springer, pp. 295-301, 2017
49. S. Bonfanti, A. Gargantini and A. Mashkoor, A Preliminary Systematic Literature Review of the Use of Formal Methods in Medical Software Systems *Industrial Proceedings of 23rd European & Asian Systems Software & Service Process Improvement & Innovation Conference (EuroAsiaSPI'16)*, 2016
50. F. Kossak and A. Mashkoor, How to Select the Suitable Formal Method for an Industrial Application: A Survey, *5th International Conference on ASMs, Alloy, B, TLA, VDM and Z (ABZ'16)*, Springer, pp. 213-228, 2016
51. P. Arcaini, S. Bonfanti, M. Dausend, A. Gargantini, A. Mashkoor, A. Raschke, E. Riccobene, P. Scandurra and M. Stegmaier, Unified Syntax for Abstract State Machines, *5th International Conference on ASMs, Alloy, B, TLA, VDM and Z (ABZ'16)*, Springer, pp. 231-236, 2016
52. S. Bonfanti, A. Gargantini and A. Mashkoor, A Preliminary Systematic Literature Review of the Use of Formal Methods in Medical Software Systems *Industrial Proceedings of 23rd European & Asian Systems Software & Service Process Improvement & Innovation Conference (EuroAsiaSPI'16)*, 2016
53. F. Kossak and A. Mashkoor, How to Select the Suitable Formal Method for an Industrial Application: A Survey, *5th International Conference on ASMs, Alloy, B, TLA, VDM and Z (ABZ'16)*, Springer, pp. 213-228, 2016
54. P. Arcaini, S. Bonfanti, M. Dausend, A. Gargantini, A. Mashkoor, A. Raschke, E. Riccobene, P. Scandurra and M. Stegmaier, Unified Syntax for Abstract State Machines, *5th International Conference on ASMs, Alloy, B, TLA, VDM and Z (ABZ'16)*, Springer, pp. 231-236, 2016
55. A. Mashkoor and J. Sametinger, Rigorous Modeling and Analysis of Interoperable Medical Devices, *49th Annual Simulation Symposium (SpringSim'16)*, ACM, pp. 800-807, 2016

56. P. Arcaini, S. Bonfanti, A. Gargantini, A. Mashkoor and E. Riccobene, Formal Validation and Verification of a Medical Software Critical Component, *13th International Conference on Formal Methods and Models for System Design (MEMOCODE'15)*, IEEE, pp. 80-89, 2015
57. A. Mashkoor and J. P. Jacquot, Observation-level-driven Formal Modeling, *16th International High Assurance Systems Engineering Symposium (HASE'15)*, IEEE, pp. 158-165, 2015
58. A. Mashkoor, M. Biró, M. Dolgos, and P. Timar, Refinement-Based Development of Software-Controlled Safety-Critical Active Medical Devices, *7th International Conference on Software Quality Days (SWQD'15)*, Springer, pp. 120-132, 2015
59. F. Kossak, A. Mashkoor, V. Geist and C. Illibauer, Improving the Understandability of Formal Specifications: An Experience Report, *20th International Working Conference on Requirements Engineering: Foundation for Software Quality (REFSQ'14)*, Springer, pp. 184-199, 2014
60. A. Mashkoor, O. Hasan and W. Beer Using Probabilistic Analysis for the Certification of Machine Control Systems, *3rd IFIP International Workshop on Security and Cognitive Informatics for Homeland Defense (SeCIHD'13)*, Springer, pp. 305-320, 2013
61. A. Mashkoor and O. Hasan, Formal Probabilistic Analysis of Cyber-Physical Transportation Systems, *12th International Conference on Computational Science and Applications (ICCSA'12)*, Springer, pp. 419-434, 2012
62. A. Mashkoor and J. P. Jacquot, Stepwise Validation of Formal Specifications, *In: 18th Asia-Pacific Software Engineering Conference (APSEC'11)*, IEEE, pp. 57-64, 2011
63. A. Mashkoor and J. P. Jacquot, Guidelines for Formal Domain Modeling in Event-B, *13th International High Assurance Systems Engineering Symposium (HASE'11)*, IEEE, pp. 138-145, 2011
64. A. Mashkoor, F. Yang and J. P. Jacquot, Validation of Formal Specification: The Case for Animation, *3rd Workshop on Security and Reliability (SecDay'11)*, 2011
65. A. Mashkoor and J. P. Jacquot, Domain Engineering with Event-B: Some Lessons We Learned, *18th International Requirements Engineering Conference (RE'10)*, IEEE, pp. 252-261, 2010 (**Distinguished Paper Award**)
66. A. Mashkoor and A. Matoussi, Towards Validation of Requirements Models, *In: 2nd International Conference on Abstract State Machines (ASM), Alloy, B and Z (ABZ'10)*, Springer, p. 404, 2010
67. A. Mashkoor and J. P. Jacquot, Branimation, *1st RODIN User and Developer Workshop (RW'09)*, 2009
68. A. Mashkoor, J. P. Jacquot and J. Souquières, Transformation Heuristics for Formal Requirements Validation by Animation, *2nd International Workshop on the Certification of Safety-Critical Software Controlled Systems (SafeCert'09)*, 2009
69. A. Mashkoor and J. M. Fernandes, Deriving Software Architectures for CRUD Applications: The FPL Tower Interface Case Study, *2nd International Conference on Software Engineering Advances (ICSEA'07)*, IEEE, 2007

Miscellaneous

1. A. Mashkoor, Formal Domain Modeling: From Specification to Validation, *Doctoral Symposium of 16th International Symposium on Formal Methods (FM'09)*, 2009
2. A. Mashkoor, J. P. Jacquot and J. Souquières, B Événementiel pour la Modélisation du Domaine: Application au Transport, *9th Approches Formelles dans l'Assistance au Développement de Logiciels (AFADL'09)*, 2009
3. A. Mashkoor, The Modeling Language Dilemma for MDA, *8th Umeå's Student Conference in Computing Science (USCCS'04)*, 2004

Atif Mashkoor, Sc.D., Ph.D.

PC Chairs

1. 8th International Workshop on Cybersecurity and Functional Safety in Cyber-Physical Systems (IWCFS'24) @ DEXA'24, Naples, Italy, Aug 26-28, 2024
2. 3rd International IVOIRE Workshop @ ABZ'24, Bergamo, Italy, Jun 25-28, 2024
3. 7th International Workshop on Cybersecurity and Functional Safety in Cyber-Physical Systems (IWCFS'23) @ DEXA'23, Penang, Malaysia, Aug 28-30, 2023
4. 2nd International IVOIRE Workshop @ ABZ'23, Nancy, France, May 30 - Jun 02, 2023
5. 6th International Workshop on Cybersecurity and Functional Safety in Cyber-Physical Systems (IWCFS'22) @ DEXA'22, Vienna, Austria, Aug 22-24, 2022
6. IVOIRE Workshop @ IFM'22, Lugano, Switzerland, Jun 7-10, 2022
7. Security, Privacy and Protection in Industry 4.0 @ ISM'21, Hagenberg, Austria, Nov 17-19, 2021
8. 5th International Workshop on Cybersecurity and Functional Safety in Cyber-Physical Systems (IWCFS'21) @ DEXA'21, Virtual Conference, Sep 27-30, 2021
9. Security, Privacy and Protection in Industry 4.0 @ ISM'20, Virtual Conference, Nov 23-25, 2020
10. 4th International Workshop on Cybersecurity and Functional Safety in Cyber-Physical Systems (IWCFS'20) @ DEXA'20, Virtual Conference, Sep 14-17, 2020
11. 3rd International Workshop on Cybersecurity and Functional Safety in Cyber-Physical Systems (IWCFS'19) @ DEXA'19, Linz, Austria, Aug 26-29, 2019
12. 2nd International Workshop on Cybersecurity and Functional Safety in Cyber-Physical Systems (IWCFS'18) @ MEDI'18, Marrakesh, Morocco, Oct 24-26, 2018
13. 5th International Conference on ASMs, Alloy, B, TLA, VDM, and Z (ABZ'16), Linz, Austria, May 23-27, 2016
14. 1st International Workshop on Cybersecurity and Functional Safety in Cyber-Physical Systems (IWCFS'16) @ EuroAsiaSPI'16, Graz, Austria, Sep 14-16, 2016

Program Committees

ABZ 2014, 2016, 2018, 2020, 2021, 2023, 2024, 2025, 2026
VERIFAI 2026
RE 2024, 2025 (Posters & Tools Demo)
IWCFS 2016, 2018, 2019, 2020, 2021, 2022, 2023, 2024
FVPS 2018, 2019, 2021, 2024
ISM 2020, 2021, 2022, 2023
FIT 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022
DEXA 2020, 2021
EuroAsiaSPI 2016, 2017, 2018, 2019, 2020
HASE 2016, 2017, 2019
ICONS 2018
FMIS 2018
MSM 2017, 2018
ISPS 2015
CTS 2014, 2015, 2016

Other Chairs

MODELS 2025 (Proceedings Chair)
RE 2024 (Student Volunteer Chair)
ABZ 2016, 2024 (Publicity Chair)
HASE 2016, 2017 (Publicity Chair)

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Journal Reviews	Journal of Engineering Research, ISSN: 2307-1877 (2026) Journal of Object Technology, ISSN 1660-1769 (2025) Requirements Engineering, Springer, ISSN: 0947-3602 (2024) Journal of Software: Evolution and Process, Wiley, ISSN: 2047-7481 (2016, 2019, 2020, 2021, 2023) PeerJ Computer Science, PeerJ, ISSN: 2167-8359 (2023) Journal of Systems and Software, IEEE, ISSN: 1551-3203 (2020, 2021, 2023) Software Quality Journal, Springer, ISSN:0963-9314 (2022) Applied Artificial Intelligence, Taylor & Francis, ISSN: 0883-9514 (2022) Frontiers in Computer Science, Frontiers, ISSN: 2624-9898 (2022) Transactions on Software Engineering, IEEE, ISSN:0098-5589 (2021) Journal of Universal Computer Science, ISSN 0948-695x (2020, 2021) Science of Computer Programming, Elsevier, ISSN: 0167-6423 (2016, 2017, 2020, 2021) International Journal of Medical Informatics, Elsevier, ISSN: 1386-5056 (2020) Transactions on Industrial Informatics, IEEE, ISSN: 1551-3203 (2020) Transactions on Reliability, IEEE, ISSN: 0018-9529 (2019, 2020) International Journal on Software Tools for Technology Transfer, Springer, ISSN: 1433-2779 (2019) Transactions on Software Engineering and Methodology, ACM, ISSN: 1049-331X (2018) Journal of Biomedical and Health Informatics, IEEE, ISSN: 2168-2194 (2018) Software and Systems Modeling, Springer, ISSN: 1619-1366 (2018) Software, IEEE, ISSN: 0740-7459 (2017) Transactions on Cyber-Physical Systems, ACM, ISSN: 2378-962X (2016) Microchemical Journal, Elsevier, ISSN: 0026-265X (2016) Simulation: Transactions of the Society for Modeling and Simulation International, Sage Publications, ISSN: 0037-5497 (2016) Future Generation Computer Systems, Elsevier, ISSN: 0167-739X (2015, 2016) Transactions on Large-Scale Data- and Knowledge-Centered Systems, Springer, ISSN: 1869-1994 (2013)
Research Visits	1. Institut de Recherche en Informatique de Toulouse (IRIT), Toulouse, France, Host: Prof. Yamine Ait-Ameur (Jun-Jul 2018) 2. University of Lorraine, Nancy, France, Host: Prof. Jean-Pierre Jacquot (Oct 2017) 3. University of Bergamo, Bergamo, Italy, Host: Prof. Angelo Gargantini (Aug-Sep 2015) 4. Universidade Nova de Lisboa, Lisbon, Portugal, Host: Prof. Ana Moreira (Feb 2007)
Trainings & Summer Schools	1. The 5th TAROT (Training And Research On Testing) Summer School on Software Testing, Complutense University of Madrid, Las Navas del Marqués, Spain, July 6-10, 2009 2. The 4th Doctorial de Lorraine, The Professional Doctoral Training, Nancy University, Saint-Dié-des-Vosges, France, May 19-25, 2009 3. The 1st VTSA (Verification Technology, Systems & Applications) Summer School, Max Planck Institute for Informatics, Saarbrücken, Germany, September 15-19, 2008

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- Invited Talks
1. A Research Collaboration Model Between Pakistan and Austria in AI, *International Center For Chemical and Biological Sciences*, Karachi, Pakistan (Jun 2025)
 2. Rigorous Model-driven Engineering of Software-intensive Safety-critical Systems, *San Diego State University*, San Diego, USA (Jan 2024)
 3. Rigorous Model-driven Engineering of Software-intensive Safety-critical Systems, *Tampere University*, Tampere, Finland (Oct 2023)
 4. Rigorous Model-driven Engineering of Software-intensive Safety-critical Systems, *Telecom Paris*, Paris, France (Oct 2023)
 5. Rigorous Model-driven Engineering of Software-intensive Safety-critical Systems, *University of Innsbruck*, Innsbruck, Austria (Apr 2023)
 6. Rigorous Model-driven Engineering of Software-intensive Safety-critical Systems, *KU Leuven*, Diepenbeek, Belgium (Mar 2023)
 7. Rigorous Model-driven Engineering of Software-intensive Safety-critical Systems, *National University of Science & Technology*, Islamabad, Pakistan (Sep 2022)
 8. Artificial Intelligence and Software Engineering: Are We Ready? *International Nathiagali Summer Colleges*, Virtual (Jun 2022)
 9. The Role of AI in Health Sciences & Beyond, *International Center for Chemical & Biological Sciences*, Karachi, Pakistan (Sep 2021)
 10. The Relationship Between Machine Learning and Software Engineering Life Cycle Stages, Keynote @ *International Workshop on Machine Learning in Software Engineering @ ECML PKDD*, Virtual (Sep 2021)
 11. The Role of (SPC)AI in Pakistan @ National AI Forum, *Pak-Austria Fachhochschule: Institute of Applied Sciences & Technology*, Haripur, Pakistan (Sep 2021)
 12. Application-oriented AI Research in Healthcare, *OIC Standing Committee on Scientific & Technological Cooperation (COMSTECH)*, Virtual (Nov 2020)
 13. Rigorous Methods for Safe & Secure Systems & Software Engineering, *National University of Computing & Emerging Sciences*, Virtual (Oct 2020)
 14. The Role of Formal Methods in the Transportation Domain, *Siemens Mobility GmbH*, Brunswick, Germany (Oct 2019)
 15. Rigorous Methods in Software & Systems Engineering, *School of Electrical Engineering & Computer Science, National University of Sciences & Technology*, Islamabad, Pakistan (Jun 2017)
 16. The Hemodialysis Machine Case Study, *ABZ 2016*, Linz, Austria (May 2016)
 17. Rigorous Methods for Reliable Systems & Software Engineering, *Università degli Studi di Bergamo*, Bergamo, Italy (Sep 2015)
 18. Adaptive Reliable Process-oriented Systems, *B. Braun Medical Kft.*, Budapest, Hungary (Nov 2014)
 19. Application of Rigorous Methods in Industrial Projects, *Lorraine Laboratory of Research in Informatics and its Applications*, Nancy, France (Oct 2014)
 20. Validation of Medical Programmable Systems using Industrial Rigorous Engineering Methods, *B. Braun Medical Kft.*, Budapest, Hungary (Feb 2014)
 21. Rigorous Methods for Software Engineering Applications, *B. Braun Medical Kft.*, Budapest, Hungary (Dec 2013)
 22. Formal Modeling & Testing, *Verpura GmbH*, Altenberg bei Linz, Austria (Dec 2013)
 23. Nip the Evil in the Bud: Rigorous Methods in Requirements Specification, *OMI-CRON Electronics GmbH*, Klaus, Austria (May 2013)
 24. Application of the Event-B Method to Industrial Applications, *Voestalpine AG*, Linz, Austria (Feb 2013)

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- 25. Rigorous Methods in Chip Designing, *Intel Corp.*, Linz, Austria (Dec 2012)
- 26. Formal Domain Engineering, *Simula Research Lab*, Oslo, Norway (Jun 2011)

Languages Urdu (Native); English and Punjabi (Fluent); German and French (Intermediate), Swedish and Arabic (Basic)

Citizenship Austrian

Links **Homepage:** <https://www.jku.at/en/institute-of-software-systems-engineering/about-us/team/atif-mashkoor>
DBLP: <https://dblp.uni-trier.de/pid/27/5485.html>
Google Scholar: <https://scholar.google.at/citations?user=2jWaZr0AAAAJ&hl=en&oi=ao>
ORCID: <https://orcid.org/0000-0003-1210-5953>
ResearchGate: <https://www.researchgate.net/profile/Atif-Mashkoor-2>
Web of Science: <https://www.webofscience.com/wos/author/record/1982871>
Scopus: <https://www.scopus.com/authid/detail.uri?authorId=35792330000>
LinkedIn: <https://www.linkedin.com/in/atifmashkoor>