Message from the SE’24 Workshop Chairs

Deepak Dhungana¹ and Leen Lambers²

Abstract: This volume includes the proceedings of the Workshops of the 2024 Software Engineering conference (SE’24). SE is the leading conference on software engineering in German-speaking countries and is annually organized by the Gesellschaft für Informatik (GI). The SE conference series serves as a platform to exchange experiences and insights in the area of software engineering for which it addresses an audience from both practice and academia. The workshops were held on 26th and 27th of February 2024. The SE’24 was held at the Johannes Kepler University in Linz, Austria.

1 Workshops

The workshops were selected by the workshop chairs, considering the feasibility of the proposed workshop and the potential to attract an engaged audience. All submitted proposals were of high quality and therefore were accepted.

• 5th Workshop on Anforderungsmanagement in Enterprise Systems-Projekten (AESP’24) Many enterprise systems selection, implementation, and development projects fail due to missing, incorrect, inadequate, or incomplete requirements. This is often because these projects involve incorrect expectations, disagreements in definitions, and differing opinions on requirements management between clients and suppliers. In addition to the requirements driven by enterprise systems, companies involved in enterprise systems projects often face additional organizational requirements and challenges, such as (i) New or modified business processes (ii) New or modified corporate organization (iii) Need for capacity and availability of relevant project personnel, such as key users (iv) ERP and process competence of employees (v) ERP capability of the organization and its personnel (vi) Financing and budgeting – operationalization of agile methods, etc. These challenges were highlighted, discussed, and debated in this workshop. https://www.sis-consulting.com/se24-anforderungsmanagement-in-enterprise-systems-projekten/

• 21th Workshop on Automotive Software Engineering (ASE’24) Like its predecessors, the 21st Workshop on Automotive Software Engineering addresses the challenges of software development in the automotive sector, exploring suitable methods, techniques, and tools for this purpose. With increasingly connected vehicles, modern driver assistance functions, and the challenges of fully automated driving, automotive software plays an ever-important role in today’s context. In addition to the continuously rising complexity, stricter requirements for reliability, safety (both security and safety),

¹ IMC University of Applied Sciences, Krems, Austria, deepak.dhungana@fh-krems.ac.at
² Brandenburgische Technische Universität Cottbus-Senftenberg, Germany, leen.lambers@b-tu.de
and data protection (privacy) must be met. Furthermore, distraction-free and intuitive multimodal operation of vehicle applications through voice and gesture control is becoming increasingly significant. The trend towards connectivity has already reached vehicles. Thus, driving is being transformed by advancing "digital cultures": value-added services (e.g., social media, streaming, office applications) will be even more seamlessly integrated into vehicles and can be operated by users while driving. This workshop discussed challenges and solution approaches in Automotive Software Engineering, with a particular focus on the use of agile methods in a regulated environment. https://ase-workshop.github.io/2024/

- **6th Workshop on Avionics Systems and Software Engineering (AvioSE’24)** Software development in the aerospace domain is driven by demanding fault tolerance, increasing complexity, new application potentials, rising certification effort, and increasing cost pressure. New software development methodologies are required for future applications such as e.g. Advanced Air Mobility (AAM), aircrew (workload) reduction, and further enhancement of existing functionality. At the same time, there are challenges in communication and navigation in airspace, certification for multi-core processors, artificial intelligence (AI) as well as security of software, hardware, and connectivity. The aim of the workshop is to exchange information on software and systems engineering methods and tools with an application in avionics. Presentations of new methods and technologies in this field are welcome. This was a one-day event with presentations, keynotes and discussions. https://aviose-workshop.github.io/

- **1st Workshop on Generative and Neurosymbolic AI in Software Engineering (GenSE’24)** Generative methods have strongly influenced developments in the field of Artificial Intelligence (AI) over the past year, ranging from ChatGPT to open-source models like Llama-2. The automatic generation of computer code or structured data based on a description in natural language can be considered the first application of generative models in software development. However, since the accuracy and reliability of the outputs of such generative models cannot be guaranteed, their practical application often comes with risks. In software development, this can lead to software errors or result in security vulnerabilities. In this workshop, we aim to discuss challenges in the use of generative AI methods in software engineering and propose and validate solutions to the aforementioned risks and challenges. The practical application of neurosymbolic approaches will be particularly emphasized. The workshop is targeted at researchers, scientists, developers, and users from both the academic and industrial fields. https://gense-workshop.github.io/

- **Quantum Software Engineering Meetup (QSE Meetup)** Quantum computing promises to solve problems beyond the capabilities of classical computing. To harness the potential of emerging quantum hardware, extensive method development within the field of quantum software engineering is required. This involves the need for abstraction concepts, programming languages, compiler technology, testing and analysis methods, processes, and guidelines that allow for the broad operation and efficient utilization of quantum computers. The goal of the QSE-MeetUp is to engage...
the software engineering community in the field of quantum computing and to enhance the contribution of software engineering in making quantum computing accessible and applicable. The Meetup included an introductory keynote on quantum computing and a series of keynote speeches addressing challenges in quantum software engineering from both academic and practical perspectives. It was followed by a panel discussion involving speakers and participants. https://tva.kastel.kit.edu/aktivitaeten/Quantum_Software_Engineering_MeetUp_2024.php

- **6th Workshop on Software Engineering for Cyber-Physical Production Systems (SECPPS’24)** Software plays an essential role in operating industrial production systems efficiently. Despite variability and complexity being core challenges in cyber-physical production systems (CPPS), recent developments in software engineering have yet to make significant inroads into the automation of production systems. Various ways to integrate software engineering will be discussed in this workshop. https://rickrabiser.github.io/secpps-ws/se24

## 2 Acknowledgements

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Deepak Dhungana, Leen Lambers