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Institut für Informatik

Vorträge im Rahmen des Besetzungsverfahrens der Laufbahnstelle „Software Engineering“

Mittwoch 18. November 2020, 08:30 Uhr

Dr. Mohamad Gharib (Università degli studi di Firenze)

Lehrevortrag „Static Code Analysis““ (20 Minuten) und anschließend der Forschungsvortrag mit dem Titel:

Several Emerging Challenges and Future Research Directions in the area of Design Science

Abstract:

The talk will be divided into three main parts that focus on the current, ongoing and future research directions in several topics in the broad area of Design Science. Among the covered topics, Engineering Information Quality (IQ) requirements for Socio-technical Systems, Engineering Privacy by Design, Engineering Functional Safety Requirements from a Cyber-Physical-Social perspective, and assessing the properness of incorporating Machine Learning (ML) components in Safety-Critical Systems.

Mittwoch 18. November 2020, 11:00 Uhr

Philipp Zech PhD (telecommunication software)

Lehrevortrag „Static Code Analysis““ (20 Minuten) und anschließend der Forschungsvortrag mit dem Titel:

Closed-loop Software Engineering

Abstract:

Software engineering is a truly complex construction effort. Model-driven engineering however provides a solid foundation to both formally abstract away low-level noise as well as automate various activities along the feed-forward engineering pipeline. This advancement eventually capitalizes on well-devised representations by software models. Yet, to fully exploit the capacity of model-driven engineering, inverse feedback flow rearward the engineering pipeline is indispensable. This ultimately culminates in closed-loop software engineering to deliver a tool-chain which is both highly polymorphic and generic, as well as extensive in its use and hence applicable to both varying business contexts and environments. This decisively advances large-scale software engineering along the whole software development life-cycle by eradicating orthogonal barriers.

Mittwoch 18. November 2020, 14:00 Uhr

Dr. Mohammad Ghafari (Universität Bern)

Lehrevortrag „Static Code Analysis““ (20 Minuten) und anschließend der Forschungsvortrag mit dem Titel:

Security as a software development culture

Abstract:
Rapid software development has become the norm, and developers should adapt themselves to keep up with this pace. In this talk, I will shortly explore the challenges that developers face to engineer robust and secure software systems and discuss how we can instill a development culture to circumvent these challenges.

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Freitag 20. November 2020, 08:30 Uhr

Dr. Stephan Krusche (Technische Universität München)

Lehrevortrag „Static Code Analysis““ (20 Minuten) und anschließend der Forschungsvortrag mit dem Titel:

Interactive learning – Improving Learning Success in Software Engineering Courses with Immediate Feedback

Abstract:

The demand for software engineers has grown in the last years. Large courses with hundreds of students are now common. It is impossible for instructors to interact with each student on an individual level, even if this is important for the learning success. Interactive learning is a learning method that combines lectures and exercises into small iterations of theory, example, practice, feedback and reflection. It is based on active, computer-based and experiential learning and focuses on immediate feedback to provide guidance.

Artemis is a learning platform based on interactive learning that allows to interact with students on an individual level. Artemis automatically grades programming and quiz exercises and uses supervised machine learning to propose the assessment of modeling and text exercises. Artemis is highly scalable, reliable and has a high usability. It has been used in inclass exercises with more than 1500 freshmen who have simultaneously submitted solutions and received individual feedback. Empirical evaluations show that interactive learning with Artemis significantly improves the learning success.

Freitag 20. November 2020, 11:00 Uhr

Dr. Alessio Gambi (Universität Passau)

Lehrevortrag „Static Code Analysis““ (20 Minuten) und anschließend der Forschungsvortrag mit dem Titel:

On Systematically Generating Tests and Beyond

Abstract:

My main research goal is to ensure that software is reliable and does not cause safety or other issues. Hence, I prominently investigate techniques and methods for systematically testing it using search algorithms and more. In parallel to this topic, I also investigate methods for improving continuous integration and computer science education, orthogonally impacting software development and quality.

In this talk, I will give an overview of my research in the areas of Software Testing and Computer Science Education. Next, I will present my work on automated self-driving car software testing and discuss other ongoing research efforts. I will conclude the talk by presenting the outline of my planned future research on continuous software engineering and education in the context of complex and autonomous software systems.

Aufgrund der Umstände (COVID 19) finden die öffentlichen Vorträge und die anschließenden Diskussionen per Stream statt.

Bei Interesse melden Sie sich bitte per E-Mail an informatik@uibk.ac.at