

INFORMATIK-KOLLOQUIUM

Der Fachbereich Informatik der Johannes Kepler Universität Linz¹ lädt in Zusammenarbeit mit der Österreichischen Gesellschaft für Informatik (ÖGI) sowie der Österreichischen Computer Gesellschaft (OCG) zu folgendem Vortrag ein:

Application of finite model checking for analysis of security and safety related properties

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Informatik in Wirtschaft und Verwaltung, Computational Biology, Pervasive Computing, Systemsoftware, Anwendungsorientierte Wissensverarbeitung, Graphische und Parallele Datenverarbeitung, Telekooperation, Informationsverarbeitung und Mikroprozessortechnik (FIM), Formale Modelle und Verifikation, Systems Engineering and Automation, Computational Perception, Integrierte Schaltungen, Integriertes Studieren

Abstract:

Finite model checking has been used for verification and validation of complex software and hardware systems for long time. However security related properties are often differ from those traditionally studied in formal verification. For example many security and safety concerns related to utilization of wireless sensor networks (WSN) arise from the fact that resources in such networks are scarce. Meanwhile, it is expected that WSN applications can be quite complex and it is expected that they will provide key security and safety guarantees despite the limited resources. Therefore application of finite model checking for analysis of such untraditional properties would be an important step for improving security of many security related systems. In this talk I will consider applications of finite model checking as an approach to analysis of security and safety related properties such as, for example, discovering the worst case scenarios of WSN behaviour, trust-aware query processing in data intensive sensor networks and conformance checking of RBAC policies and their implementations.

Vladimir Oleshchuk is Professor of Computer Science in Department of Information and Telecommunications Technology at the University of Agder, Norway. His current research interests include formal methods for information security, safety and privacy, information retrieval and theoretical computer science. He is a senior member of ACM, member of IEEE Computer and Communication Societies and Elected Member of Agder Academy of Sciences and Letters.

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