

Work Group Computer Networks and Automation
(Prof. Dr. Jürgen Jasperneite)



Work Group Interconnected Automation Systems
(Prof. Dr.-Ing. Henning Trsek)

Title: Software-based support for security risk assessments in industry

Abstract: The aim of this thesis is to carry out preparatory work and research in the field of information modelling, data processing, and machine learning as part of the ongoing [SUSI](#) research project. The automation of security risk assessments is becoming more and more important in the industrial environment due to increasing complexity. The tasks of this thesis include the identification of existing solutions, the establishment of suitable evaluation criteria, the selection of a suitable technology, and the prototypical implementation based on the completed and coordinated research. As a result of the thesis, the automation of security risk assessments based on machine learning methods will be implemented and evaluated in the current industrial environment. The results are in direct coordination with the content of the research project and also flow back into it.

Recommended skills:

- Understanding of technology (automation, cloud, software architectures, ...)
- Basics of programming (Java, C#, Python, ...)
- Dealing with different platforms (Windows, Linux, ...)
- Initial experience with machine learning (ML) methods
- Basic understanding of the topic of security in industry
- Interest in the research environment and ability to work independently

Scope: Thesis Topic

Job Offer (as assistant)

Contact:

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