UNIVERSITÄT PADERBORN

Paderborn University is a high-performance and internationally oriented university. Within interdisciplinary teams, we undertake forward-looking research, design innovative teaching concepts and actively transfer knowledge into society. As an important research and cooperation partner, the university also shapes regional development strategies. We offer our employees in research, teaching, technology and administration a lively, family-friendly and equal opportunity environment, a lean management structure and diverse opportunities. **Join us to invent the future!**

In the Faculty of Computer Science, Electrical Engineering and Mathematics at the **Department of Computer Science – Secure Software Engineering** the following position is to be filled as soon as possible

Research Assistant (f/m/d)
for research on architecture- and code-based security metrics

(Pay scale group 13 TV-L)

with 100 % of the regular working hours. This is a fixed-term position initially limited due to third-party funding within the meaning of the German Act on Fixed-Term Research Employment Contracts for Academic Staff (Wissenschaftszeitvertragsgesetz "WissZeitVG"). The position is limited to the four-year duration of the project. The possibility of a doctoral qualification is given. During this period, an application for project extension may be submitted to the DFG. If funding is renewed, an extension of employment is possible within the time limits of the "WissZeitVG".

This position is being created within the context of the DFG research group "*Attack-Resilient Development of CPS via Model-Based Defense in Depth (MODID)*." The specific contributions of the Secure Software Engineering research group to the project include the development and testing of security metrics at the level of system architecture (formulated in SysML) and program code, which are intended to enable the assessment of the system's attack resilience and the comparison of the relative attack resilience of different system variants. Further information on MODID can be found here: https://go.upb.de/modid-en.

The Secure Software Engineering research group develops methods and tools to ensure that the hardware and software systems of tomorrow are functional, failure-safe, and attack-resistant. Research is conducted in a practice-oriented manner, in collaboration with renowned international partners from academia, politics, and industry. A key focus of the group is the design of automated methods for software quality assurance, including within the context of agent-based software development. Software tools developed in the group are used worldwide by hundreds of research groups and companies.

Specific research areas for the advertised positions include, among others:

- Definition and evaluation of architectural metrics for attack resilience (based on SysML)
- Definition and evaluation of metrics for attack resilience at the code level (based on static code analysis)
- Integration of all metrics into a unified tool framework that enables system developers to assess the relative attack resilience of various architecture and code variants

Responsibilities:

- Individual research in the above-mentioned or related topics (60 %)
- Active collaboration with colleagues in the relevant funded project (30 %)
- Dissemination and transfer of research results (10 %)

Recruitment requirements:

- Solid scientific university degree (Master or equivalent) in computer science, mathematics, electrical engineering, or a related field
- Excellent written and spoken German *or* English skills, and, if necessary, a willingness to learn German
- Knowledge of SysML and programming skills in C/C++ and/or Java are a plus

We offer:

- An exciting mix of technical and coordination tasks in a highly motivated team
- Access to the latest LLM-based coding tools
- Flexible working hours and the individual option of mobile working
- Wide range of health, counseling and prevention services
- Attractive fringe benefits such as childcare facilities and sports activities
- Opportunities for internal and external training and development
- Additional benefits in accordance with the collective agreement of the federal states (TV-L), such as annual bonuses and capital-forming benefits as well as the VBL supplementary pension scheme

Applications from women are particularly welcome and, in case of equal qualifications and experiences, will receive preferential treatment according to state law (LGG), unless there are preponderant reasons to give preference to another applicant. Part-time employment is generally possible. Applications from disabled people with appropriate suitability are explicitly welcome. This also applies to people with equal opportunities in accordance with the German social law SGB IX.

Please send your application to se-jobs.cs@uni-paderborn.de with the standard documents, **quoting reference number 7311**.

Information regarding the processing of your personal data can be located at:
https://www.uni-paderborn.de/en/zv/personaldatenschutz.

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HR EXCELLENCE IN RESEARCH

TOTAL E-QUALITY DIVERSITY

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