

Driving decarbonization and digitalization. Together.



Doctoral Thesis: Automotive Software Development with Artificial Intelligence (f/m/div)

Job description

The industrial doctorate at Infineon: Pursue a doctoral degree at a university and gain professional experience simultaneously - an ideal start for your career. Advance your research with us and profit from our vast network of doctoral candidates and the expertise of a university. Mentorship is handled by both professors and dedicated Infineon employees. We are offering a doctoral thesis dealing with the utilization of artificial intelligence in the automotive software development process. Automotive software development has some of the highest safety standards in the industry. Every interface needs to be traceable from requirement to implementation and from functional test back to requirements. This can be a time-consuming and manual process. However, we believe that AI can help us automate some of these steps and improve traceability and compliance with safety standards. Additionally, we believe that AI can help use to improve the process of writing the software and generating code. To prove this hypothesis and develop first solutions, this is where you come in. As our AI Software Researcher, you will have the opportunity to explore cutting-edge AI solutions that will revolutionize the way we think about software development in automotive. The thesis will be written in cooperation with Technical University of Munich and under the supervision of Prof. Dr. Hussam Amrouch.

The tasks within the thesis will consist of:

- **Conducting research** in **AI-based solutions** for **automotive software development** optimized for the next generation automotive microcontroller platform
- **Understanding** the **current way** how **automotive software is developed**
- **Identifying potential process steps** that can be **improved or replaced by AI** and **ease life** of **internal embedded software developers** as well as **customers** to fasten the development cycle
- **Proposing** and **evaluating new AI algorithms and models**
- **Conducting data analysis** to **identify patterns and insights** that can **inform AI-based solutions**
- **Evaluating** and **optimizing different approaches** for accuracy, performance, and scalability
- **Collaborating** with our **global cross-functional team** and **presenting your results** in **top-tier international academic conferences and journals**

Profile

A doctoral student is a research enthusiast, › whose interests are scientific research combined with the passion for Infineon's innovative products and applications.

At a glance

Location:

Job ID: **HRC0625460**

Start date: **as soon as possible**

Entry level: **0-1 year**

Type: **Full time**

Contract: **Temporary**

Apply to this position online by following the URL and entering the Job ID in our job search. Alternatively, you can also scan the QR code with your smartphone:

Job ID: **HRC0625460**
www.infineon.com/jobs

Contact

Silke Jaschik

Recruiter



- › who enjoys working in an industrial environment in combination with an Infineon partner university.
- › who appreciates open communication and the contribution of an international environment.
- › and is thus an excellent candidate for a further academic or industrial career after completion of their thesis.

As the ideal candidate you:

- Are **eligible for full-time PhD studies** and have a master's degree in **C computer Science, Electrical Engineering**, or similar, with a focus on Data Sciences, Artificial Intelligence, and Deep Learning
- **Possess knowledge of modern NLP and general transformer approaches**
- **Are familiar with development principles for productive embedded software (C, C++, Rust)**
- **Are experienced with developing deep learning** models using Pytorch, TensorFlow, or JAX
- **Have an understanding of MLOps** as a plus
- **Bring self-motivation** and a **proactive working style**
- **Are fluent in English**, German is a plus

Why Us

Driving decarbonization and digitalization. Together.

Infineon designs, develops, manufactures, and markets a broad range of semiconductors and semiconductor-based solutions, focusing on key markets in the automotive, industrial, and consumer sectors. Its products range from standard components to special components for digital, analog, and mixed-signal applications to customer-specific solutions together with the appropriate software.

– Automotive (ATV) shapes the future of mobility with microelectronics enabling clean, safe, and smart cars –

The **ATV division** is shaping the future of mobility by enabling clean, safe, and smart cars. Its product and solution offering is powering the decarbonization and digitalization of vehicles. By driving the transition to hybrid and purely electric vehicles, ATV is making a valuable contribution to cleaner roads. ATV is also increasingly digitalizing cockpit, infotainment, comfort, and lighting applications as it takes automated driving to the next stage with higher levels of connectivity, security, and safety.

The ATV portfolio integrates sensors, microcontrollers, high-performance memories for specific applications, power semiconductors based on silicon and silicon carbide, as well as components for human-machine interaction and vehicle connectivity. Infineon is the world leader in automotive semiconductors.

We are on a journey to create the best Infineon for everyone.

This means we embrace diversity and inclusion and welcome everyone for who they are. At Infineon, we offer a working environment characterized by trust, openness, respect and tolerance and are committed to give all applicants and employees equal opportunities. We base our recruiting decisions on the applicant's experience and skills.

We look forward to receiving your resume, even if you do not entirely meet all the requirements of the job posting.

Please let your recruiter know if they need to pay special attention to something in order to enable your participation in the interview process.

[Click here](#) for more information about Diversity & Inclusion at Infineon.

