

Master Thesis

Android Automotive at Volkswagen Infotainment

South Westphalia Software Engineering Lab (SW²E Lab)

Fachhochschule 

Motivation:

Volkswagen Infotainment is developing the platform for digital and IoT services within the Volkswagen group. Thereby several ECUs as well as variants for different brands with their cars need to be considered.

Volkswagen Infotainment is interested in new technologies to optimize their development approach. In this case they aim on setting up a new GitHub Enterprise Server to manage their build pipeline for the whole platform and the corresponding variants. In this thesis a concept should be developed to setup this GitHub Enterprise Server with special regards to variant handling for the platform.

Objective:

This thesis aims to explore the integration of AI algorithms using Gemini-Core within an Android Automotive environment running on embedded target hardware (e.g., Raspberry Pi). The student will develop a Proof of Concept (PoC) that demonstrates how intelligent features can be embedded into automotive systems using Android Automotive and evaluated on real hardware.

Tasks:

- Familiarization with **Android Automotive OS** and its deployment on embedded platforms such as **Raspberry Pi**
- Setup and configuration of the **Android Automotive environment** on the target hardware
- Integration of **AI algorithms using Gemini-Core** into an Android Automotive application
- Development of a **Proof of Concept (PoC)** demonstrating a selected AI use case (e.g. intelligent data management)
- Implementation of a UI/UX software component to visualize or interact with the AI functionality, even within a headless PoC setup
- Performance evaluation and documentation of the implementation on the embedded platform

Requirements:

- Master's thesis for students in **Digital Technologies, Systems Engineering, or Engineering Management**
- Experience in **embedded software development** (e.g., with C++ and/or Java/Kotlin) is beneficial
- Familiarity with **Android development** and **AI/ML frameworks** is advantageous
- Interest in **automotive systems, AI integration, and embedded platforms**
- Hands-on mindset and ability to work independently

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VOLKSWAGEN
INFOTAINMENT

Wir geben Impulse



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