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Bachelor Thesis / Master Thesis

Start: from now

- Faculty 1 - Mathematics, Computer Science and Natural Sciences
- Faculty 4 - Mechanical Engineering
- Faculty 6 - Electrical Engineering and Information Technology

Enhancing Function Development with Fine Tuning of a Large Language Model

Given the recent developments in AI, where Large Language Models (LLMs) have shown high capabilities in coding, the rise of AI tools like GitHub Copilot and ChatGPT inspired us to optimize an LLM for function development. The goal is to refine established LLMs through fine-tuning, unlocking their potential to enhance function development for the automotive sector. This work aims to create an AI tool optimized in generating Simulink functions and documenting existing code.

Your tasks:

- Literature research of existing LLMs
- Generate Simulink functions and clean up existing ones
- Fine-tune LLM and evaluate the capability of the model

Your competences:

- Basic understanding in NLP (Natural language processing), LLM and deep learning (Python)
- Knowledge in function development (Matlab and Simulink)

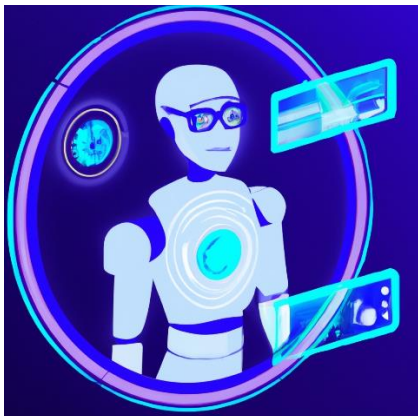
Your benefits:

- Potential publication opportunity
- Experience with open-source ML-Tools and fine-tuning of state-of-the-art LLMs

We are the Teaching and Research Area Mechatronics in Mobile Propulsion (MMP). Our heart beats for the technology of tomorrow's mobility. Around the interdisciplinary topics of mechanics, electrical engineering and information technology, we research sustainable and demand-oriented drive and vehicle concepts. We bring the future into drives!

You want to know more about us? Then you will find more information under the following links:

- [Who we are](#)
- [What drives us](#)
- [What we research](#)
- [Where we are involved](#)
- [How we bring research into teaching](#)



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Would you like to know more?

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