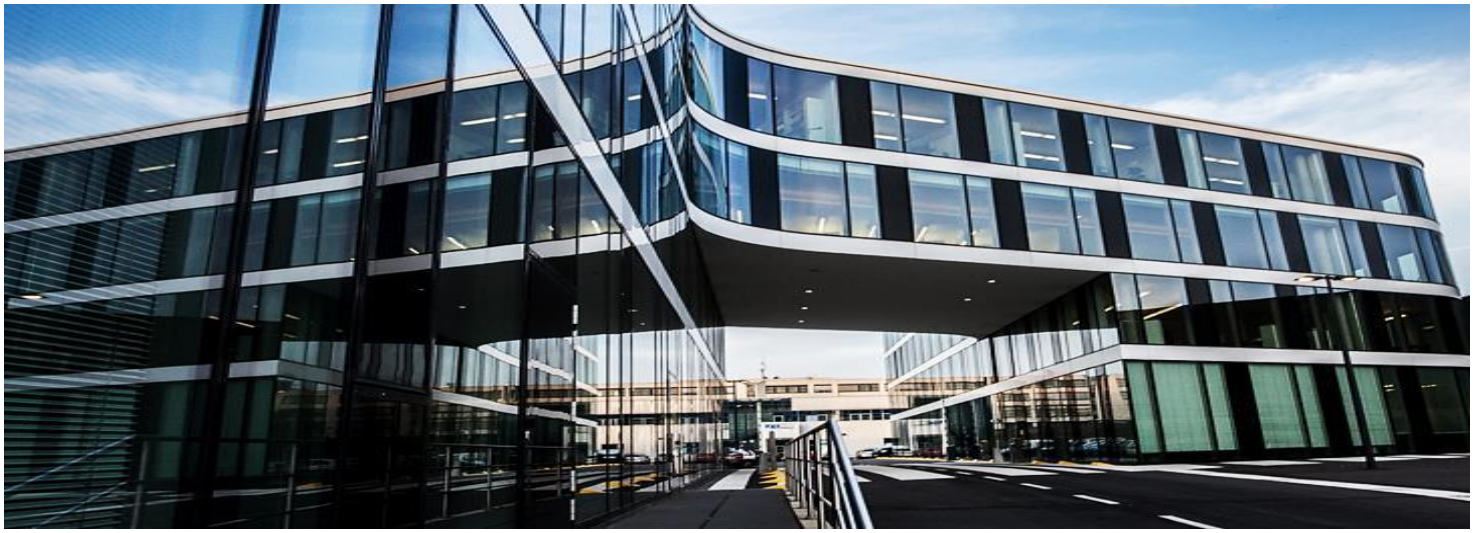


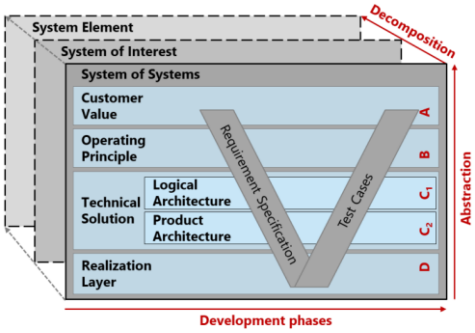
Teaching and Research Area Mechatronics in Mobile Propulsion | RWTH AACHEN UNIVERSITY

cmp Center for Mobile Propulsion | RWTH AACHEN UNIVERSITY

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



Teaching and Research Area
Mechatronics in Mobile Propulsion
RWTH Aachen University
Forckenbeckstraße 4, 52074 Aachen
Phone +49 (241) 80 – 48148

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

AI Function Development in Model-Based Systems Engineering

It requires agile processes to meet customer demands and the challenges of managing the complexity of automotive function development, including the high number of product variants. This thesis is about developing a tool based on Artificial Intelligence (AI) to be integrated in the workflow of existing Model-based Systems Engineering (MBSE) approaches. We employ a large language model (LLM) to automate the generation of functions, unit-tests, and documentation in alignment with MBSE requirements. The goal is to stay abreast of industry demands, streamline processes and enhance efficiency.

Your tasks:

- Literature research of MBSE and fine-tuning of LLMs
- Fine-tune LLM and evaluate the capability of the model

Your competences:

- High interest in developing AI tools for MBSE
- Knowledge in function development (MATLAB and Simulink) and Python

Your benefits:

- Potential publication opportunity
- Experience with open-source ML-Tools and LLMs

Would you like to know more?

Abdelrahman Abdalla, M.Sc.
abdalla@mmp.rwth-aachen.de
Phone: +49 (241) 80 - 48405