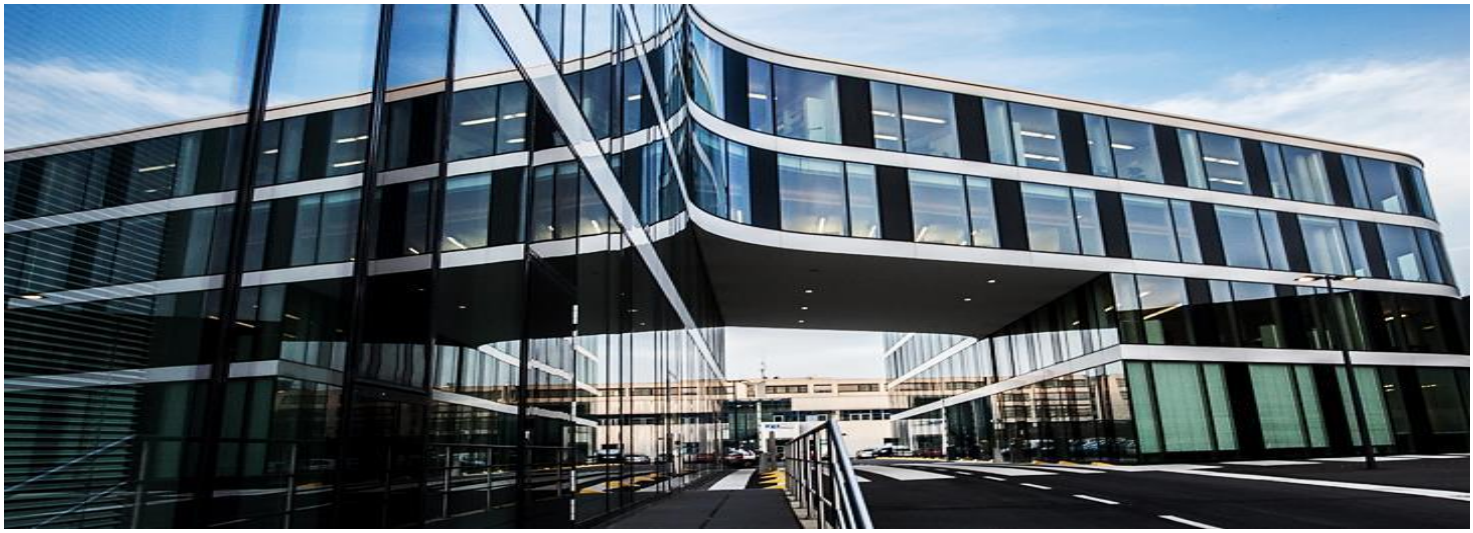


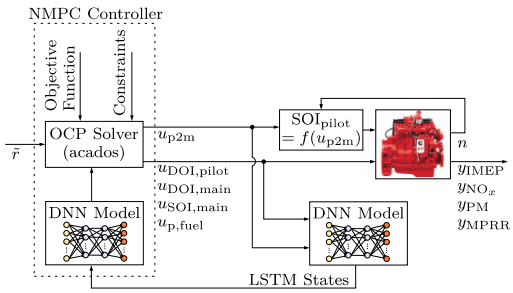
Teaching and Research Area Mechatronics in Mobile Propulsion | RWTH AACHEN UNIVERSITY

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
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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

Machine Learning Modeling using Synthetic Hydrogen Engine Data

A Machine Learning (ML) based Model Predictive Controller (MPC) has been successfully used to optimize the performance and emissions of a dual-fuel hydrogen engine. The ML model developed utilized experimental data, however, to reduce calibration costs and for easier transition between engines the use of synthetic engine data from a GT-Power model is desired.

Your tasks:

- Use an existing GT-Power performance and emission model to generate data to then train a real-time ML model
- Integration of ML model into MPC for experimental testing
- Literature research of the above-mentioned topics

Your competences:

- Knowledge in Python and/or MATLAB
- Knowledge in ML and GT Power is beneficial

Your benefits:

- Experience with cutting edge open source ML tools
- International, interdisciplinary research project
- Potential publication opportunities

Would you like to know more?

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