Master's Thesis Calibration Manager

PACETEQ

About us

PACETEQ is a team of experts in software development, computer science, mathematics, data analytics and engineering - set to develop and implement solutions that make our partners and customers succeed in competitive environments.
Our members have achieved multiple championships in every level of motorsport, from Formula 3 to Formula 1™, and have worked for renowned OEMs and Organizations.
We develop:

- Turnkey application software solutions for professional sports activities and environments.
- Embedded and connected solutions for motor racing and the automotive industry.
- Data-driven solutions and services to enable successful business.

Scope of the thesis

In top-level motorsport, there are numerous calibration changes for the electronic control units in a car during a race or test event. Keeping track of these changes and comparing different revisions is a key factor for successful operation of a race car.
Opposed to road cars, there is no common standard used by the different suppliers of control units.
The scope of this work is to develop a generic software concept, that can deal with the different data formats. Considering the constraints of the motorsport environment, where potential users need to make decisions in short timeframes, with hard deadlines.

Your responsibilities

- Research current state of the scientific and technical knowledge.
- Map out different approaches.
- Evaluation of the approaches.
- Conception and prototype implementation of the most promising approach, including software architecture and UX/UI concepts.
- Documentation of approaches, concepts, code and evaluation.

Your background

- Currently enrolled for a master's degree in Mechatronics Engineering, Electrical Engineering, Computer Science or similar fields.
- Programming skills in C/C++, or Python, or JavaScript/TypeScript, optionally MATLAB/Simulink.
- Good mathematical and analytical skills.
- High personal standard of performance and drive for results.
- Strong communication skills in German and English.