

Lap Time Simulation

Test & Race Operations

Data Analysis

- Concept comparisons
- Validation of simulation models based on test data

Data Analysis & Development

Vehicle Dynamics & Lap Time Simulation

Model development and optimization

- Expansion of our vehicle model
- Accurate representation of the real vehicle



What is the Lap time simulation about?

Lap time simulation is one of our team's most essential development tools. During the concept phase, the simulation already allows us to evaluate different vehicle concepts.

For the upcoming season, we are looking for support to further develop our quasi-static lap time simulation. Unlike our transient simulation, an optimization problem based on vehicle and track characteristics is formulated and solved with the FALCON solver in this simulation, calculating the optimal lap time for given parameters.

The quasi-static simulation (QSS) contributes to stability by isolating and optimizing the vehicle's behavior at each track position, avoiding the interference of multiple controllers, such as those for braking and acceleration.

What will be your tasks?

- Further development of the vehicle model and parameterization of the vehicle and track
- Creation and evaluation of analyses
- Contribution to the creation of our mechanical setup
- Participation in cross-group tasks (testing, manufacturing, etc.)
- Attendance at group and team meetings

What are our requirements?

- Motivation and team spirit
- Preferably studying in mechanical engineering, physics, CES, or automotive engineering
- Ideally, prior knowledge of:
 - MATLAB
 - Object-oriented programming
- Interest in vehicle dynamics and simulations, not only practically but also in abstract applications
- Good English skills



One Goal
One Team.

Would you also like to accompany your component from CAD to the race track? Apply on our homepage!



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