THESIS / RESEARCH WORK / PROJEKTARBEIT

NÜWIEL is an award-winning Hamburg based start-up developing electric transportation solutions for last mile logistics.

NÜWIEL vision is to improve air quality in big cities and reduce negative impact of traffic emissions on cities, environment and public health by providing an alternative mobility: intelligent electric bike trailers.

We are looking for a technically savvy, motivated and enthusiastic student for a thesis, research work or project work in the field of test bench design.

YOUR MISSION:

Our trailer is driven by a BLDC hub motor. When starting the trailer from zero speed, high torque is needed. This condition is complex to control in a BLDC motor. For helping to optimize startup behavior for our trailer, you would:

- Develop a test bench that allows low-speed, high-torque testing of a BLDC hub motor
- Evaluate different test bench concepts against the system requirements, considering complexity, cost and safety (eg flywheel, load machine, mechanical brakes)
- Design a CAD model for the test bench
- Select components for constructing the test bench
- Assemble the system
- Verify the quality and safety of the test bench
- Optional: Experiment with motor control strategies, optimizing for high-torque, smooth, efficient startup

YOU BRING:

- Background in Mechanical Engineering, Mechatronics Engineering or related
- Prior experience with electro-mechanical system design
- Knowledge of CAD systems (preferably Autodesk Fusion 360)
- Preferably existing experience or interest in mobility-related solutions
- Solid English skills
- Optional: embedded C skills

WE OFFER:

- Immense learning and a start-up experience
- International, supportive and friendly team
- Direct contribution to the product development
- Room for creativity, own ideas and exploration
- Table tennis, team lunches and free goodies

We will move to a new office in Barmbek near U-Bahn Hamburger Straße in September.

Interested? Send an email to Fahad: fahad.khan@nuwiel.de.