Bachelor/Semester/Master Thesis:

TUM Hyperloop Levitation Testbench Control and Electronics

TUM Hyperloop:

TUM Hyperloop is developing a full-scale Hyperloop demonstrator including a fully functional vehicle with a levitation system, a propulsion system and a vacuum tube. For the work on the testbench for the magnetic levitation system, we are looking for a motivated student who would like to write a bachelor, semester or master thesis within the TUM Hyperloop team.


Thesis Description:

As part of the Levitation sub team you will be responsible for the control and electronics of the testbench for the pod magnetic levitation system. The testbench will be employed for measurements and tests of the levitation electromagnet which will deliver essential input for the levitation controller. These inputs include the produced levitation force at varying coil currents and air gaps, the coil inductances, and thermal parameters. The thesis work package includes the development of the electronics and control of the testbench, the conducting of test series and proper documentation of all results. You will be part of the TUM Hyperloop Team with more than 70 people working on the future of transportation. Take the challenge!

Tasks:

- Investigation of system parameters and testing objectives
- Development and implementation of the testbench control system including sensor and linear actuator implementation, GUI, data processing
- Design of Experiments for testing series
- Conducting of tests and thorough documentation of results
• Teamwork in the TUM Hyperloop Team

Requirements:

• Experience with sensor signal processing, experimental data processing and fieldbus protocols such as EtherCAT (in Beckhoff system) preferred
• Profound programming skills in any language
• Highly motivated Master or Bachelor student preferably of electrical engineering background
• Independent work and planning
• Teamplayer

Our offer:

• Working in a young and dynamic team aspiring to change the way we travel
• Hands-on experience building the first European full scale Hyperloop demonstrator

Contact:

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