Bachelor/Semester Thesis / Research Internship:

TUM Hyperloop Levitation and Guidance System
Mechanical Design and FEM-Simulation

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 mechanical design of the magnetic levitation and guidance system, we are looking for a motivated student who would like to write a bachelor or semester thesis or conduct a research internship within the TUM Hyperloop team.


Thesis Description:

As part of the Levitation sub team you will work on the mechanical design of the pod magnetic levitation and guidance system. The magnetic levitation and guidance system ensures contactless and smooth suspension of the Hyperloop vehicle within its guideway. It comprises the electromagnetic coils, magnet structures, suspension elements and electronics holders. The thesis or internship work package consists of the entire part development process from conceptual mechanical design to manufacturing and assembly:

- Investigation of system design and requirements
- Literature research on primary suspension concepts
- CAD design under considerations of packaging, manufacturing, ease of assembly and maintenance and in close collaboration with magnetic and electrical interfaces
- FEM simulations of parts to ensure the fulfillment of stability requirements and safety factors
- Manufacturing and assembly of the levitation and guidance modules
You will be part of the TUM Hyperloop Team with more than 70 people working on the future of transportation. Take the challenge!

Requirements:

- Prior CAD experience (Siemens NX preferred)
- FEM simulation skills (Ansys Mechanical Workbench preferred)
- Experience in mechanical part design and manufacturing
- Highly motivated Master- or Bachelor student preferably mechanical engineering
- 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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