Master Thesis at TUM Start-Up

Design, Development, and Evaluation of an Actuation Concept for State-of-the-Art Exoskeletons

At EASE, we believe that everyone should be able to work in a healthy way. Even in physically demanding jobs that are often indispensable.

We want to actively support workers and reduce strain-related fatigue and illness. For this purpose, we are developing an active, soft exoskeleton that supports lifting and carrying in manufacturing and logistics workplaces.

Adaptive yet sufficient support of the user requires a custom actuation concept that offers powerful and fast support while minimizing inertia, weight, and space.

We work together with an industrial partner to evaluate a new actuation concept which includes the integration of a frameless motor into the design.

Your tasks:

- Design and development of the actuation concept with support from the industrial partner
- Design and development of a simplified test rig based on the exoskeleton
- Testing and evaluating actuation concepts on the test rig (Motor control, data acquisition, processing, and evaluation)

Requirements:

- Systematic way of working and good team player
- Experience in mechanical design (Solidworks) and basic manufacturing
- Basic knowledge of electric motors
- Coding experience in C++, Python, or Matlab is helpful

Would you like to know more about our system?

We look forward to your application at EASE!

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EASE
by the HF.exo project

ptJ Projektträger Jülich Forschungszentrum Jülich

eXIST Existenzgründungen aus der Wissenschaft