



Master Thesis Optimized Design of Robotic Assembly Systems

Robert-Bosch-Campus 1, 71272 Renningen, Germany

Full-time

Legal Entity: Robert Bosch GmbH

Company Description

At Bosch, we shape the future by inventing high-quality technologies and services that spark enthusiasm and enrich people's lives. Our promise to our associates is rock-solid: we grow together, we enjoy our work, and we inspire each other. Join in and feel the difference.

The Robert Bosch GmbH is looking forward to your application!

Job Description

- As a part of your Master thesis, you will review existing industrial solutions and the current state of research in robotic assembly systems, with a focus on multi-robot cells and the integration of special-purpose machines.
- You will develop a modelling approach for special-purpose machines. These machines will be represented as kinematic structures composed of simple geometric bodies connected by joints, enabling their integration into the existing simulation framework at an abstract level.
- Your area of responsibility includes the further development of the optimization framework to address higher-level system design questions. The objective is to determine an appropriate system decomposition, including the number of cells and robots allocated to each cell, as well as the integration of special-purpose machines.
- Last but not least, you will create a model of a real-world use case and evaluate alternative system design configurations based on the extended framework.

Qualifications

- **Education:** Master studies in the field of Engineering, Computer Science, Natural Sciences or comparable
- **Experience and Knowledge:** advanced programming skills (e.g., Python)
- **Personality and Working Practice:** you work independently and in a structured way
- **Work Routine:** partially mobile working is possible
- **Languages:** business fluent in English

Additional Information

Start: according to prior agreement

Duration: 6 months

Requirement for this thesis is the enrollment at university. Please attach your CV, transcript of records,

examination regulations and if indicated a valid work and residence permit.

Diversity and inclusion are not just trends for us but are firmly anchored in our corporate culture. Therefore, we welcome all applications, regardless of gender, age, disability, religion, ethnic origin or sexual identity.

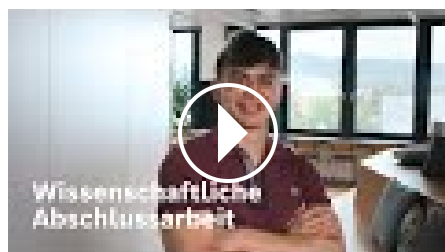
Need further information about the job?

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Job Location



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