JobID REF28259Z

Job posted on: 08/06/2018

BOSCH

Thesis Advanced method development for residential energy management

Location
Renningen

Working time
Full time

Start date
December 2018 or according to prior agreement

Join as
Graduate

Fields of work
Research & Development

Legal entity
Robert Bosch GmbH

Your tasks

Help shape the future: Today's residential building energy systems exhibit an increasing complexity. On the one hand, interdependencies within a broad product portfolio are getting stronger through sector-coupling. On the other hand, economic benefits of distributed power generations (e.g. rooftop PV) strongly depends on operating strategies. Classical design methods often fail to deliver reliable results due to the complexity and the uncertainty. In this work, an optimal and robust solution for simultaneous system configuration, dimensioning and operation is to be worked out. After a literature review of the state-of-the-art solutions, one of the promising strategies is chosen for further development. Therein a mathematical framework is going to be constructed and solved with the help of advanced solution methodologies (e.g. mathematical optimization, machine learning, etc.). The proposed framework is going to be applied to a real-world case study.

Your profile

- **Character:** team-minded and communicative
- Working Practice: creative thinking and independent working
- **Experience and Knowledge:** thermodynamics and system simulation techniques
- **Qualification:** programming with Matlab/GAMS desirable
- **Education:** Master study in building energy technology, operations research, or similar

Additional information

The Corporate Sector Research and Advance Engineering is in charge of designing, testing and exploring systems, components and technologies. Our innovations consistently aim to achieve an improvement in the quality of life. Renningen, near Stuttgart, is the hub of the Bosch Group's global research and advance engineering activities. Here around 1,600 employees from the center for research and advance engineering are developing new materials, methods and technologies, along with new systems, components and production processes.

About us

Do you want beneficial technologies being shaped by your ideas? Whether in the areas of mobility solutions, consumer goods, industrial technology or energy and building technology – with us, you will have the chance to improve quality of life all across the globe.
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Requirement for this thesis is the enrollment at university. Please attach your CV, transcript of records, enrollment certificate, examination regulations and if indicated a valid work and residence permit.

Need further information about the job?
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