



The Institut für Energiesystemtechnik (INES) is looking for a
Student Assistant
 on the topic of
Industrial Energy Systems Modeling and Optimization

Background: With the increase in integration of volatile renewable energy sources, the challenge of balancing the demand and supply is becoming greater as well. One solution to overcome this challenge is to make electricity consumer flexible and adaptable according to situation in the power grid and electricity markets. In this regards, industrial consumers, particularly small and medium-sized enterprises (SMEs) could play an important role in provision of such flexibility on the one hand, while on the other hand they could also reduce their electricity cost and generate revenue by participation in provision of flexibility. In one of the on-going research projects to enable active and profitable participation of SMEs in electricity, we are developing energy systems modeling and optimization algorithms to achieve the mentioned goal.

Your tasks:

- Development and extension of current digitization models in Python for different widely available industrial systems in SMEs.
- Development and application of dynamic optimization and control algorithms with the framework of developed models.
- Collection of external data and processing of internal available measurement data and interfacing with the models.
- Carrying out the validation test and analysis of the results
- Written elaboration and presentation of your work.

Your profile (required):

- Currently enrolled in Master's study related to Energy Systems Technology, Electrical Engineering, Mechanical Engineering or similar
- Good knowledge of programming in *Python* or willingness to learn
- Thorough, reliable and independent work style
- Good communication skills (English and/or German)
- Knowledge and interest in the topics of energy systems technology and modeling

Your profile (advantageous):

- Experience with mathematical optimization
- Experience in physical and dynamic modeling
- Experience in data extraction, processing and analysis

We offer:

- Student remuneration (12.52 €/hour or more, depending on your qualification)
- Intensive support and very good working environment in the new RIZ Energie building with time flexibility
- Practical experience in the promising areas of energy and optimization
- Possibility of carrying our Bachelor's/Master's thesis or Internship on the topic afterwards

Start and scope: As early as possible, approx. 40 h per month (flexible and by arrangement)

Interested? Please contact M.Sc. R. Rahul via email at rahul.rahul@hs-offenburg.de

Further information: <https://www.ines.hs-offenburg.de/forschung/intelligente-energienetze/>