Technische Hochschule Ingolstadt

Institute of
new Energy Systems

Institute of New Energy Systems (InES)
As research institution for applied energy research, the Institute of new Energy Systems *(InES) forms part of* Technische Hochschule Ingolstadt. *At InES, five professors and more than 40 researchers are working on future-oriented technologies in the field of renewable energies and rational use of energy. They focus on industrial and domestic energy systems, energy systems technology as well as on technology transfer and international projects. Bachelor and master students will find excellent career opportunities with InES. For more details about our research activities please visit* https://www.thi.de/energie.

Student assistant
Support and Development of a Monitoring System of a single-family home

Research project and background:
Within a research project, a single-family home is being monitored in real-time. The purpose of the measurement data is to monitor the thermal behavior of the building (room temperature, humidity, …) and the operation of the system components (thermal storage, heat pump, PV-system, …). To get detailed insights to the system's behavior, many sensors were installed and therefore a big amount of measurement data is being transferred to the institute. For this task, a new concept for data storage, visualization and evaluation should be developed in the institute.

Description of the task:
The goal is to set up a time-series database and a visualization tool to simplify the access of the measurement data. A first selection of possible databases has been done and the selected tools have been installed on the institute server. The next steps are to implement/program the tools, so that the data from the monitoring systems are being stored and can be visualized automatically. Depending on interest and time, further automatic evaluations can be implemented.

How you benefit from this position:
- Experience in working with measurement data including data storage/evaluation/…
- Implementation of and working with a database and an automated visualization tool
- Learning the programming language MATLAB

Target Group:
Students of the subject areas/study courses:
- Computer Science
- (mechanical/electrical) Engineering
- (Renewable) Energy Technologies
- Computational/Simulative Engineering
- …

Period of time:

Start: Flexible
Duration: Can be discussed (at least 3 months)

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