Bachelorthesis / Masterthesis / HiWi

Data science and model development for designing future clean energy systems

TECHNISCHE UNIVERSITÄT DARMSTADT

STFS

Motivation & Background

To achieve current climate goals, rapid technological changes are necessary. Data driven model development from large-scale simulations will be a crucial pillar for future engineers, enabling a swift transition of the energy system through innovative technical solutions.

The Institute for Simulation of Reactive Thermo-Fluid Systems (STFS) is at the forefront of pioneering advancements in large-scale simulations and AI-driven model development. Our mission is to lead groundbreaking research and development efforts, leveraging cutting-edge AI and HPC resources to solve complex problems and drive technological innovation. **Your contributions to this exciting venture are most welcome!**

Are you a visionary engineer with a passion for large-scale data sets and cutting-edge artificial intelligence (AI) technologies? Do you thrive on transforming complex data into next-generation models that drive innovation? Do you have a strong programming background (preferably in python/C++), and proficiency in Unix-based systems? If so, we encourage you to contact us for more information!

Tasks

- Conduct in-depth data analysis and integrate diverse datasets to inform and improve simulation models. Utilize state-of-the-art data processing and analysis techniques to extract valuable insights.
- Design, implement, and refine advanced AI models to enhance the evaluation of large-scale simulations.
- Employ advanced performance tuning techniques to maximize the efficiency and speed of AI-driven models. Conduct detailed performance analysis and optimization to ensure optimal resource utilization.

Focus Areas

Simulation	●○○
Modellierung	●○○
Implementierung	●●○
Datenanalyse	●●●

Date

17.06.2026

Start date

Immediately

Kontakt

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