We are looking for a

**Student Assistant (HiWi) / Research Internship / Study Project / Thesis**

to assist with the

**Test & Improvement of a Metadata-Crawler for HPC Simulations**

for TUM-students within

**Informatics, Data Engineering, Mechanical Engineering, Engineering Science, Electrical Engineering, Aerospace etc.**

We are working on solutions to make data from High Performance Computing (HPC) findable and reusable by other research groups. This is supported by attaching rich metadata to the research data. The relevant metadata fields are described in ontologies. Filling these ontologies by hand, however, is infeasible. Therefore, in this work, the metadata extraction is to be automated using a python based script. The tool should first extract metadata form runs of our in-house computational fluid dynamics (CFD) code and then successively extend to data from the the HPC system used and post-processing algorithms. Therein, flexibility to work on inputs from other sources, e.g. other codes or experimental data is to be ensured.

**Tasks**
- Familiarization with CFD and HPC workflows
- Familiarization with metadata-ontologies
- Improvement of a (existing) python toolkit to extract metadata

**Requirements**
- Knowledge of python
- Knowledge of Linux-CL

**Benefits**
- Flexible working hours
- Joint-mentoring by TUM and LRZ: exclusive experience with HPC-clusters
- Experience with state-of-the art metadata concepts
- Insight into a nationwide research project
- Credentials of prestigious research facilities (TUM and LRZ)
- Recognition within your study program (just for thesis / internships / projects)
- Payment will be according to TV-L

**Contact**
Benjamin Farnbacher
benjamin.farnbacher@tum.de
089.289.16094