Chair of Aerodynamics and Fluid Mechanics
TUM School of Engineering and Design
Technical University of Munich

Thesis / Interdisciplinary Project (IDP) / Research Practice / Study Project

Test & Improvement of a Metadata-Crawler for HPC Simulations

for students within

Informatics, Aerospace, Mechanical Engineering, Data Science, Computer Engineering or similar

Our research group is working on solutions to make data findable and reusable. This is supported by attaching appropriate metadata to the produced research data. In this work, the metadata extraction is to be automated using a python based metadata crawler. The tool should first extract metadata from computational fluid dynamics (CFD) codes and then successively extend to data from the HPC system used, as well as post-processing algorithms. Therein, flexibility to work on inputs from other sources, e.g. other codes or experimental data is to be ensured.

Tasks

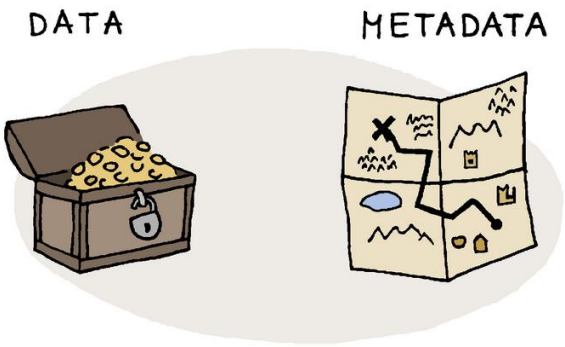
- Improvement of an (existing) python toolkit to extract metadata
- Familiarization with metadata-ontologies
- Familiarization with CFD and HPC workflows

Requirements

- Knowledge of Python and Linux-CL

Benefits

- Flexible working hours, remote work
- Insight into a nationwide, state-of-the-art research project
- Recognition within your study program (thesis / internships / projects etc.)
- Joint-mentoring by TUM and LRZ: exclusive experience with HPC-clusters



https://dataedo.com/cartoon/data-vs-metadata-2 Piotr@Dataedo

Links

- Journal article: https://preprints.inggrid.org/repository/view/12/
- NFDI4Ing research group: https://www.epc.ed.tum.de/en/aer/research-groups/nfdi4ing/

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