

Master/Semester Thesis

Develop a user interface for computing monitoring on an open digital twin platform

Keywords

User interface, information visualization, interactive computing

Background

Data computing is a tedious process, which often include many tasks like data cleaning, attribute selection, modeling, and quality assessment. To facilitate this process, we build an Open Digital Twin Platform (ODTP) to serve as an open and reusable computing infrastructure for mobility context.

In this project, we want to design and develop a user interface to show the data traces and intermediate computing results. Users of ODTP can easily monitor their calculation history and manage multiple computing versions.

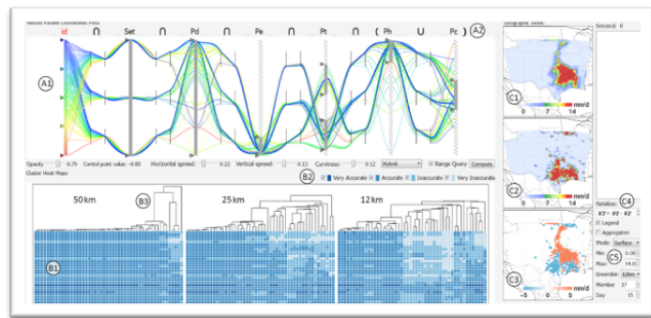


Figure 1. A dashboard for parameter monitoring during computing [1].

Tasks

You will take the lead in selecting visualization methods and designing a user-friendly interface. Your project will be comprised of the following work packages:

1. Literature research
2. Graphic user interface design and development
3. Conduct a usability test

Pre-Requisites (or strong interests in)

- Information visualization, interactive computing
- Programming in JavaScript

References

[1] Wang, Junpeng, et al. "Multi-resolution climate ensemble parameter analysis with nested parallel coordinates plots." IEEE transactions on visualization and computer graphics 23.1 (2016): 81-90.

Supervisor

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To apply for this project, please send your CV and your transcript of records to the supervisor.