LINKÖPINGS UNIVERSITET

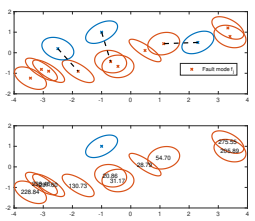
2023-05-23

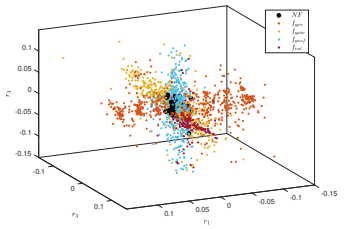
Master Thesis Proposal

Efficient Data-Driven Fault Classification of Batch Data using Fast Nearest Neighbor Search Algorithms

In a previous research project, we have developed a data-driven classifier for fault diagnosis of time-series data by comparing the distribution of new data with previous realizations of different fault scenarios. New data to be classified needs to be compared with previous observations. When the amount of logged data from different faults increases, the computational complexity of the classification grows. However, there are efficient methods to structure logged data and to remove redundant information to reduce computational complexity.

In this master thesis project, the goal is to investigate how to speed up the proposed classification methods using efficient search algorithms to find which distributions in training data that are most similar to test data.





We are looking for students with skills in probability theory, signal processing, programming and machine learning.

If you are interested or have questions, please feel free to mail me:
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or come by my office in the vehicular systems corridor (B-building behind Café Java).

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