(Porsche) Bachelor's Thesis in

Automatic Machine Learning for Time-Series Forecasting and Anomaly Detection

Application Link: *jobs.porsche.com/index.php?ac=jobad&id=33682*
Code number: PAG-A-1660891489-E

Tasks:

Position Overview:
Vehicles at Porsche generate a large amount of (time-series) data. Especially our
electric cars, like the Taycan, have plenty of electrical components equipped with sensors and multiple labels to track the state of the components.
Automatic Machine Learning (AutoML) can help to analyze the data efficiently and allow the adjustment for different use cases such as Predictive Maintenance (PdM) or Anomaly Detection.
This Bachelor Thesis should investigate the different components of a completely automated Machine-Learning pipeline regarding to the research field AutoML and with this compare the implementations from well-known industry solutions such as IBM AutoAi Watson Studio or AWS AutoML towards their degree of fully automated pipelines.

Responsibilities:
- Research of common state-of-the-art AutoML pipeline practices in the scientific field
- Investigation and comparison of popular industry solutions towards fully automated ML-pipelines
- Testing industry implementations with vehicle data for time-series forecasting or anomaly detection
- Documentation of research work

Qualifications

Minimum qualifications:
- Currently pursuing a Bachelor's degree program in software development or other technical related field
- Experience in Software Development and coding in a general purpose programming language
- Experience coding in one or more of C, C++, Java, JavaScript, Python, or similar.

Preferred qualifications:
- Experience with Machine Learning especially with Python, JupyterLab, PyTorch, Tensorflow
- Experience with Cloud Platforms such as AWS or alike
- Anticipated graduation in 2022
- Experience with data structures or algorithms gathered from inside or outside of university
- Ability to write in English