Call for Bachelor Thesis

Preliminary title: Developing a Python Library and an Optimal Software Pipeline for Streamlining Industrial Projects

Motivation and Problem Statement: In industrial settings, implementing data-driven maintenance often requires software development for machine learning projects to manage large datasets and repetitive tasks. However, there is a lack of centralized libraries containing common code patterns, as well as uncertainty about the optimal software pipeline structure. This leads to inefficiencies in code reuse and slows down project development. This library aims to address these challenges by offering a reusable toolbox, streamlining, and expediting the development process for developers working on maintenance-related topics across diverse projects.

Methodology | Tasks:

- Conduct research on existing industrial projects to identify common code snippets and functionalities relevant to machine learning tasks.

- Literature Research on various software pipelines commonly used in machine learning projects.

- Develop a plan for organizing and structuring the code into a Python library.

- Implement the library according to the planned design and consider future maintenance.

Goal: The goal of this bachelor project is to create the foundation of a maintenance Python library that includes common code patterns and functionalities from various industrial projects. Secondly, an optimal software pipeline structure should be utilized for handling machine learning projects with large datasets.

Expected Outcome:

- Foundational structure for a Python Library

- Software pipeline for machine learning projects

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