Software Engineering for AI-ML-Based Systems: A Secondary Study on the State of Practice

Bachelor Thesis

# Organization

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| Timeframe: | 2020-05-04 – 2020-11-04 |

# Context & Motivation

The rising popularity of software systems with machine learning or artificial intelligence components (AI-ML-based systems [1]) leads to new challenges and practices for their design, development, and operation [2]. So far, several industry studies have tried to capture the state of practice with different methods such as interviews, surveys, case studies, or grey literature reviews (see e.g. [3][4][5][6][7][8]). However, it is difficult to get an overview of these scattered publications. A secondary study would enable an aggregated interpretation of the current evidence in this area.

# Objectives

The goal of this study is therefore to systematically collect and analyze the majority of existing scientific studies on the state of practice concerning software engineering for AI-ML-based systems. Results should allow an overview of what has been studied so far with what methods, therefore supporting the identification of potential research gaps. Furthermore, a combined interpretation of the study results should provide insights into the most common industry practices and challenges in this area. More fine-grained research questions should be defined by the student.

# Methods

The most fitting method to collect and analyze existing literature would be a systematic literature review [9][10]. Design a detailed protocol with an effective search strategy and data extraction and analysis method to answer the selected research questions.

# References

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