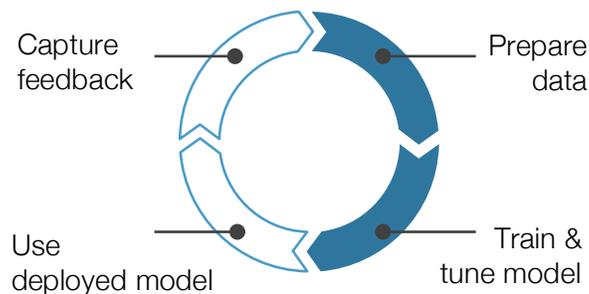Enterprise Platform and Integration Concepts, Research Group of Prof. Dr. Hasso Plattner

Machine Learning for Smart Business Applications

Motivation

Machine Learning gives computers the ability to learn without being explicitly programmed. Today it surpasses human performance on previously hard problems like image classification. This creates massive opportunity in processing unstructured data. We want to empower future enterprise applications with machine-learning-driven, automated data analysis functionalities.

Virtually every enterprise today aims to explore and harness the full potential of multitudes of data at their disposal to boost their horizons and productivity. For data-driven goals, machine learning offers the opportunity of automated extraction and processing of actionable information from vast amounts of raw data.

Goal

During the project we will work on a realistic business scenario in collaboration with the SAP Innovation Center Network and potentially other industry partners. The project aims to develop and implement a system that integrates suitable machine learning techniques

to train and learn from a large set of structured and unstructured data and to extract relevant information for the business use case at hand. Working on that objective includes collaborating with the industry partner and building a prototypical application using state-of-the-art technology within the area of data processing and analysis, including SAP HANA.

Other interesting and challenging research areas might emerge while working on the project. These topics will be studied during the project and can be a starting point for future research.

Setting

The project will be executed in cooperation with SAP Innovation Center Network and potentially further external partners. We expect a close collaboration and visits of partner sites. The project team will work on newest server hardware with in-memory and multi-core technology provided by the Enterprise Application Architecture Laboratory. The laboratory builds the foundation for activities with in-memory databases and enterprise applications at our group.

The team will consist of 4-6 students. Project start will be October 2016.

Skills

During the project you will learn the basics of machine learning and in-memory databases and how in-memory computing differs from traditional disk-based systems. You will get insights into SAP technology and how businesses use their transactional data to support decision-making. We do not expect you to have prior knowledge about machine learning, databases or enterprise systems, although a basic understanding could be helpful.

Contact

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