Company: Bright Cape B.V.

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University

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Project title (or topic):

Software infrastructure for a quality prediction tool
Exploring/researching security, versioning, licensing and deployment of an industrial data analysis tool in an enterprise setting

Description

Understanding the behavior of manufacturing systems is important for providing high product quality, while keeping the production latency short, and production and maintenance costs low. In manufacturing processes quality is often sample wise checked to avoid that products with defects hit the market. With the internet of things (IoT) in which objects (products, machines, factories, warehouses, customers) are all connected, there is increased availability of massive amounts of sensor and manufacturing data.

As part of an Industry 4.0 initiative Bright Cape has developed a machine learning tool that predicts product quality through machine learning. This tool enables manufactures to have a shorter control loop (faster detection of defects and root causes) and thereby resulting in cost savings and increased quality. In the current state-of-art there is the need for the implementation of security, versioning, licensing and deployment of the tool.

Challenges

Implementing such a tool in an industrial setting faces several challenges:

- How to keep the tool maintainable whilst making it both customizable and scalable for deployment in a variety of enterprise environments / architectures (cloud, on premise, etc.).
- How to ensure GDPR compliancy for big data handling in both on- and off-site implementations.
- How to optimize licensing and version control for both on- and off-site implementations.
- A smooth transition from a development/beta version into a fully operational production environment.

Objective

Research the architecture and functionalities for security, versioning, licensing and deployment of the PQP tool