Master's thesis proposal – 30hp

Predictive Maintenance

About Project Smarta Fabriker: Digitalization and its connection to sustainable production is identified as a key enabler for increasing the number of jobs in Swedish industry. The purpose of Project Smarta Fabriker is to increase the attractiveness of technology and careers in industrial companies, and to spread knowledge about industrial digitalization. During the spring of 2017 a state-of-the-art demonstrator of a smart factory was developed by 80 students in collaboration with over 50 companies. The demonstrator is currently used for training students as well as employees of industrial companies. For 2018 this demonstrator is to be further developed implementing a variety of digital manufacturing concepts where Predictive Maintenance is one of the central themes. To learn more about the project and previous theses, visit www.smartafabriker.se (in Swedish).

Predictive Maintenance is one of the most extended usages of Machine Learning for Industry 4.0. The factory built for Smarta Fabriker generates great amount of data that is collected on Azure Cloud and processed. Predictive Maintenance will allow us to anticipate factory needs based on data analysis and Machine Learning. For instance, we will be able to optimize power consumption by anticipating factory usage, that saves cost and contributes to sustainability. We will be able to avoid breakdowns.

Tasks

- Evaluate pool of current data generated by factory
- Make use of Azure’s cognitive functions for building data models
- Train models with real data from factory
- Present predictions in a comprehensive way at Smart Factory mobile app

Smart Factory mobile app is available at Apple Store & Google Play:

Means and location
This thesis is performed in collaboration with Cybercom’s Innovation Zone which will provide industrial support and supervision. Thesis students will have access to workplaces at Cybercom Lindholmen and a dedicated mentor specialized in Azure’s Machine Learning functionality.

Conduction and requirements
This thesis work needs to be conducted by two students where at least one should be fluent in Swedish. Preferably, we are looking for students with background in machine learning, data analysis or similar. The thesis is meant to start as soon as possible.

Contact
For questions concerning Project Smarta Fabriker contact Project coordinator Johannes Persson, 0708 58 19 13, johannes.persson@qtc.com. For specific questions concerning the topic of this thesis contact David Lindgren, 0736 33 28 57, David.Lindgren@cybercom.com, at Lindholmspiren 3A, 417 56 Göteborg.

Interviews are held continuously. To apply, send your CV and a cover letter to David Lindgren David.Lindgren@cybercom.com as soon as possible, but no later than November 30th, 2018.