Volvo PATS project

Context

The Volvo PATS (Predictive Analytics for Technological Success) project is a collaboration between Volvo Car Corporation, Chalmers University of Technology, and Sahlgrenska School of Innovation and Entrepreneurship (SSIE). Together, the actors will tackle one of the most complex issues in the field of strategic technology management – technology forecasting.

Background

While an increasing speed of technological change can be seen across many industries, it is extra prominent in the automotive industry where technology fields like autonomous driving and electric vehicles disrupt the very core of what used to be a linear development process. These fast changes bring increasingly difficult questions to incumbent actors, and companies like Volvo have to continuously adjust their technological offerings to stay relevant. But how should they choose which technologies to invest in and which to scrap? For instance, will there be a standard for electric vehicle charging, and if so, will it be cordless? Which sensing technologies are likely to be most used in autonomous cars ten years from now?

Experts continuously try to predict the future, but studies have indicated that they may be just as biased as, laymen (see “On the Accuracy of Predicting Breakthrough Technologies” by Funk, 2014). On the other hand, recent progress in the field of Machine Learning coupled with vast amounts of available patent data creates new opportunities. Where correlations might be invisible to the human eye, machine learning-based methods have proven themselves effective in identifying valuable patterns. Can such methods assist Volvo in making the right decisions when entering a new automotive era?

Project aim

The main project aim is to develop a decision support system for predicting technological success using patent data.
The actors
The project will be performed by a multidisciplinary team of students from Gothenburg in collaboration with professors from Chalmers, MIT, and Cambridge. Throughout the fall of 2017, four students from Chalmers School of Entrepreneurship (CSE) and Sahlgrenska School of Innovation and Entrepreneurship (SSIE) are performing a pre-study to map out current best practices in using predictive analytics with patent data. These students have backgrounds in law, mechanical engineering, industrial engineering and business and economics, but are currently studying Intellectual Capital Management at CSE and SSIE.

Volvo is currently looking for students with knowledge in the fields of machine learning and data analytics that can work together with the CSE and SSIE students to design and implement the decision support system as their master thesis project. Since the students will be building the system from scratch and the system design is yet to be determined, they should optimally feel confident in working cross-functionally, with changing plans and under uncertainty.

Project timeline
The timeline for the exjobb/thesis is January – May 2018. Initial participation in the development of the pre-study in December is optional.

Project compensation
The project will be conducted as a thesis internship project (exjobb) with Volvo Car Corporation and compensated at the VCC exjobb rate.