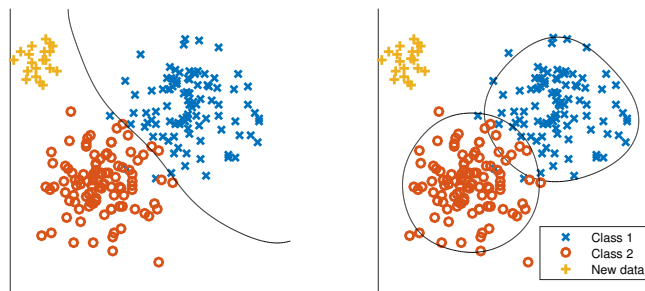


Master Thesis Proposal

Measure Reliability of Machine Learning Classifier Outputs using Data-Driven Methods

Machine learning and data-driven classification have become more and more important thanks to the access to large amount of training data. In fault diagnosis applications the objective is to monitor the system operation and detect and classify faulty behavior. However, collecting training data from faulty scenarios is complicated and therefore, training data is seldom representative of actual faulty system behavior. The performance of a data-driven classifier relies heavily on training data and extrapolation to system operation not covered in training data is likely to result in misclassifications.



This master thesis project is conducted in collaboration with Volvo Cars and the objective is to perform a literature study and develop a method to identify during which system operating conditions a machine learning classifier is reliable, i.e. when the output can be trusted. This information is also useful when formulating testing procedures to collecting representative training data of system operation behavior.

We are looking for students who are interested to work with problems with high industrial relevance and learn more about machine learning and develop methods to achieve more reliable classifiers that can state when the output should not be trusted.

If you are interested or have questions, please feel free to mail me:

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or come by my office in the vehicular systems corridor (B-building behind Café Java).