Proposal

Title: Predicting the machine failure in an industrial machine logs setting.

Problem: In the industrial setting, in a supply chain the ideal situation is to have no failures at any time. With no failures, an ideal scenario would be to have 100% uptime at all times. In the ideal situation there are no costs involved due to machine downtime. This is not the case in the real world. There are machine failures that can occur at any time causing problems in the downstream processes.

The goal is to implement a machine learning algorithm to detect a bad device using the available parameters.

Who might care?:
The quality control/QA are looking to cut costs due to machine failures. This prediction will keep those costs low.

Data: The machine logs are acquired from the company itself. The data is in a time series format. Additionally, it is known that there is a cost function associated with the prediction.

Modeling Approach: Since we are predicting the likelihood of a machine failing, a supervised classification algorithm is a perfect choice to build the predictive model. A best algorithm will be chosen depending on the performance metrics.

Possible Limitations: The prediction of the model depends on the cost associated with the prediction, So we would like to keep the costs down to predict the machine failures.

Deliverables:
1. Code for :
   - Data Acquisition
   - Data Cleaning
   - Data Exploration Analysis
   - Machine learning model development
2. Report on the capstone project.
3. Presentation on the capstone project.