

# Addressing Preventative Maintenance With Your Data

## Case Study Overview

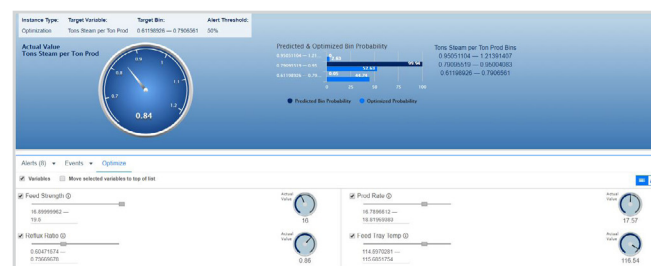
The impact of unscheduled equipment downtime can be detrimental for any business. It's critical to keep field equipment running to maximize utilization and performance, and to minimize costly, unscheduled downtime. This scenario explores a relatively large-scale simulated data set to walk through a predictive maintenance data science project from data ingestion, feature engineering, model building, and model operationalization and deployment.

### Details

- ▶ The business question is "What's the probability that a machine goes down due to failure of a component?"
- ▶ This problem is formatted as a multi-class classification problem (multiple components per machine).
- ▶ A machine learning algorithm is used to create the predictive model.
- ▶ The model is trained on historical data that's collected from machines.

### Outcome

Concept of the algorithm is to quickly give an indication that the patterns of variables start to resemble those of an outage. The algorithm will then identify which sub-units to focus into and determine what variables are impacting that change. Goal is to provide the team time to prevent future outages from occurring.



Within the Optimization Feature, real-time results are displayed to alert operators of potential future outages and avoid unscheduled downtime.

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