Reduce maintenance cost through predictive techniques

# Background

Company (3D Technologies) has a fleet of devices transmitting daily aggregated telemetry attributes.

Predictive maintenance techniques are designed to help determine the condition of in-service equipment in order to predict when maintenance should be performed. This approach promises cost savings over routine or time-based preventive maintenance, because tasks are performed only when warranted.

Goal

You are tasked with building a predictive model using machine learning to predict the probability of a device failure. When building this model, be sure to minimize false positives and false negatives. The column you are trying to predict is called **failure**with binary value 0 for non-failure and 1 for failure.

Code

We are looking for you to show off your coding skills using either Python or R.

# Data

Metadata

|  |  |
| --- | --- |
| columns | description |
| date | date in YYYY-MM-DD format |
| device | device id |
| failure | non-failure is 0, failure is 1 |
| attribute1 - attribute9 | daily aggregated telemetry |

# Report

Please return a converted PDF document from Markdown displaying your code and thought process.