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

Download link: **http://aws-proserve-data-science.s3.amazonaws.com/device_failure.csv**

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

Compute

The dataset is small enough to work with on your personal computer but you are welcome to use your $10 AWS credit to spin up an EC2 instance.

Report

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