# Downtime Prediction

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jupyter

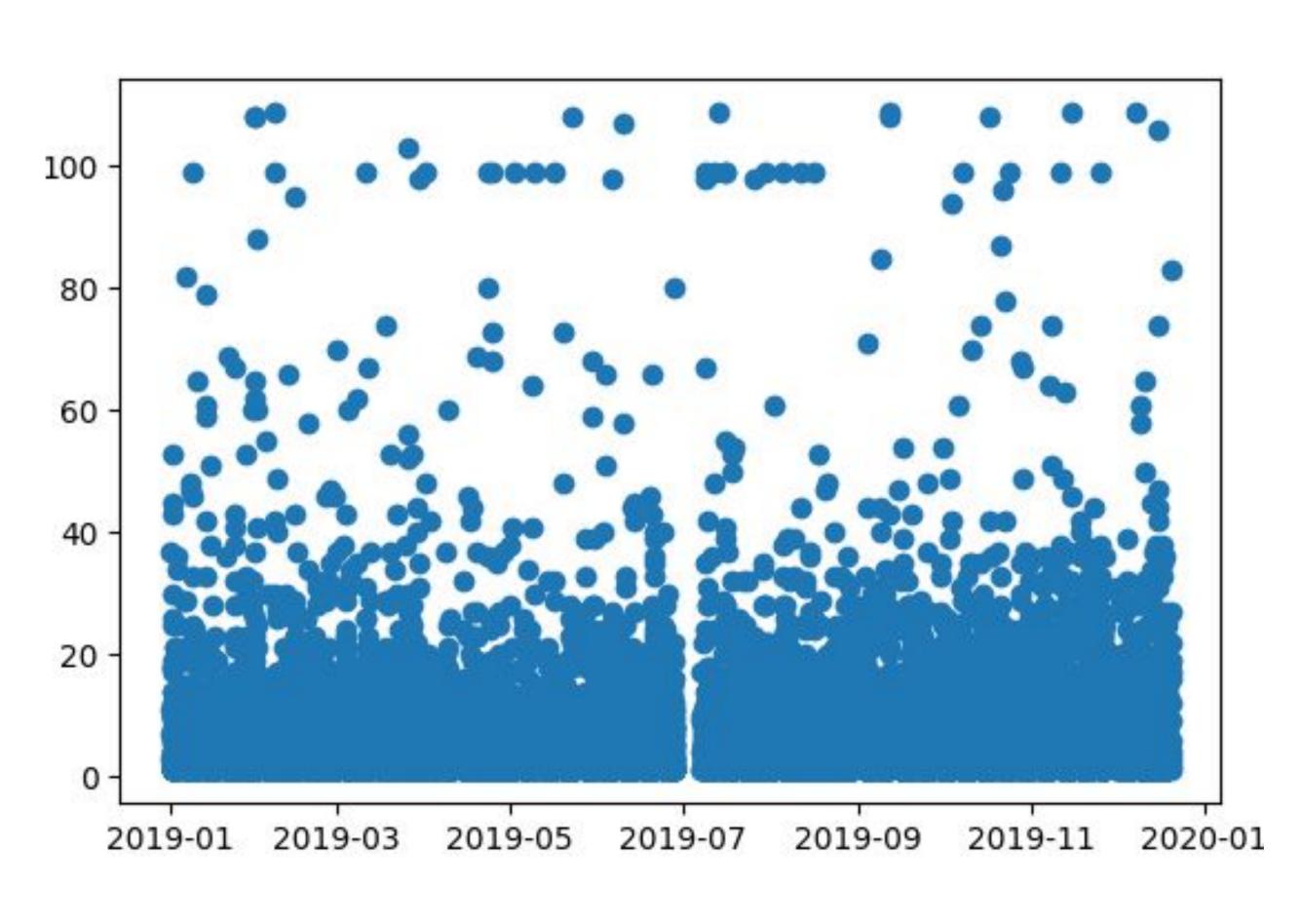
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Capstone 2025

## The Problem

- Manufacturing Lines: Bobcat produces products on various production lines.
- Line Stops: Lines may halt due to manual operations or errors.
- Customer Supply: Bobcat aims to predict the number of products that can be produced within a specific timeframe.
- Tasks:
- Predict the amount of downtime.
- Identify the reasons for downtime.
- Pinpoint where the downtime will occur.



Downtime Events in 2019

# The Solution

#### **Exploring the Data**

Initial data exploration and understanding

### Categorization

Grouping data into meaningful categories

#### Splitting the data

Dividing data into training and testing sets

#### Optimization of Model for Accuracy

Fine-tuning model for best possible accuracy

### Linking UI with Flask

Integrating model with user interface

#### Filtering the Data

Removing irrelevant or noisy data

### Preprocessing the Data

Cleaning and transforming data

#### Model Exploration

Testing different regression and classification models

#### Processing of the Results

Analyzing model outputs

