Data Science Case Study

A roofbolter is an underground mining machine that reinforces roofs of mine haulageways. It essentially drills holes in the roof and secures a bolt in each hole. The machine has two engines, a Diesel engine for traveling and a hydraulic engine for the drilling/anchoring.

In data_case_study.csv you have about a week's worth of second-based sensor data from an operating roofbolter. For this week we have labeled the data with the activity that the roofbolter is performing:

- Machine off, i.e. all engines are turned off
- Idle: Machine is on but not working
- Traveling: Machine is moving in the mine
- Hole Setup: Preparation for drilling/anchoring
- Drilling
- Anchoring: Putting a bolt in a drilled hole
- Transitional Delay: Other hydraulic activities

Your task is to build an algorithm to reproduce these activities from the sensor data provided.

We are not only interested in how you approach this task from a modeling point of view but are also keen to see how you write (production) code. We also hope that this task can give you some insight into the kind of problems we face and figuring out if you enjoy this problem space.

If you have any questions, please don't hesitate to contact us: anne@talpa-solutions.com.