MACHINE DOWNTIME PROJECT ARCHITECTURE DATA EDA **BUSINESS AND DATA** PROJECT CHARTER AND DATA DATA **PROJECT PREPROCESSING** DOCUMENT RESEARCH UNDERSTANDING **DATA CHECKLIST** STORAGE COLLECTION **ARCHITECTURE** PAPER IMPLEMENT Review relevant 1.Gather data research papers on from sensors DATA machine (temperature, **VISUALIZATION** downtime vibration)on prediction for machines. insights. 2 Collect My5QL historical jupyter downtime records and maintenance logs. Power BI PostgreSQL **BUSINESS** INSIGHT constraint 蛰 +ab|eau