



Predictive Maintenance using CNN

Presented by TB – 8

Problem Statement

- In various industries, **equipment failures** can result in significant **financial losses** due to unplanned downtime and **costly repairs**.
- **Predictive maintenance** offers a proactive approach by **analyzing historical data** and **real-time sensor** information to **predict potential issues**.
- Applying **CNNs** to predictive maintenance can **improve** the accuracy and reliability of **failure predictions**.



Process



Solution

1. Early Fault Detection

- **CNNs can analyze sensor data from machinery and detect subtle changes that indicate potential faults.**
- **By monitoring patterns over time, identify abnormal behavior, allowing maintenance teams to take corrective actions before major failures occur.**

2. Remaining Useful Life (RUL) Prediction

- **CNNs can estimate the remaining useful life of machinery components. By analyzing historical data, they learn patterns associated with wear and degradation.**
- **This information helps predict when a component is likely to fail.**



The background is a light blue grid. It is decorated with various hand-drawn blue doodles. At the top left, there are several overlapping circles. To their right is a thick, scribbled circle. Further right are more overlapping circles. On the far right, there is a star-like shape and some vertical lines. At the bottom, there are several curved lines, a wavy line, and a series of small 'v' shapes. The text 'Thank you very much!' is centered in the middle of the grid.

**Thank you
very much!**