Understanding of problem statement

- ***Problem statement:*** Develop a machine learning model that can predict tool wear and surface roughness of workpieces produced by a lathe machine. By analysing various process parameters, tool characteristics, and historical data, the model will estimate the tool wear progression and surface roughness for different machining operations. This project aims to optimize tool usage, improve product quality, and enhance overall efficiency in the manufacturing process.

- Machine Learning allows for a data-driven approach for predicting tool wear and surface roughness. Instead of relying solely on empirical models or heuristics, ML algorithms learn from historical data to identify patterns and correlations that might not be apparent through traditional methods.

- Accurate prediction of tool wear and surface roughness enables optimization of cutting parameters such as cutting speed, feed rate, and depth of cut. ML models can predict tool wear progression, allowing for proactive maintenance scheduling.

- Use of ML in predicting tool wear and surface roughness for a lathe machine empowers manufacturers with more accurate predictions, enhanced process control, improved efficiency, and reduced costs.

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June 8	June 9	June 10	June 11
Discovering resources	Deep Learning techniques	Deep Learning techniques	PyTorch library
Identifying possible approaches	Surfing open-source	GitHub repository	TensorFlow library
			Deep Learning techniques

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