Week 2 Progress Report

June 12:

- Learned about PyTorch, TensorFlow and Scikit Learn libraries
- Learned about Random seeds and PyTorch reproducibility results
- Learned about the use of TensorFlow in preparing a Neural Network

June 13:

- Learned about working of a Lathe machine
- Learned earned about the various attributes affecting the wear and tear of the tools of a smart lathe machine
- Learned about TensorFlow and Scikit Learn libraries in detail

June 14:

- Learned about Predictive maintenance
- Learned about use of Machine Learning tools for performing predictive maintenance
- Explored about different libraries to be used for the project in great

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June 15:

- Learned about Predictive maintenance
- Specifications and parameters of the sensors used to collect data to be kept in mind while selecting them
- Understood the relationship between cutting variables and tool wear as well as surface roughness

June 16:

- Explored suitable algorithms and ML frameworks that can be used for this project.
- Learned about Regression techniques and Neural Networks and how we can make use of it in predicting tool wear and surface roughness for a lathe machine

June 17:

- Learned about the various pre-processing techniques that can be used for data cleaning.
- Learned how we can remove null or infinite values and/or impute new values using interpolation
- Learned about Principal Component Analysis

June 18:

- Learned about Pandas library
- Use of Pandas library for data analysis and data preprocessing

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PROJECT TITLE	PREDICTING TOOL WEAR AND SURFACE ROUGHNESS FOR A LATHE MACHINE
NAME	PRINCY PATEL

	TASK TITLE	START DATE	END DATE	DURATION	PCT OF TASK COMPLETE
	WEEK 2				
1	Libraries	6/10/23	6/13/23	3	70%
2	Lathe Machine Working	6/13/23	6/14/23	1	100%
3	Predictive Maintenance	6/14/23	6/15/23	1	90%
4	ML tools for predictive maintenance	6/16/23	6/17/23	1	70%
5	Parameters of tool for prediction	6/16/23	6/17/23	1	90%
6	Specification of sensors used	6/15/23	6/16/23	1	90%
7	Regression and Neural Network	6/16/23	6/18/23	2	80%
8	Pre-Processing techniques	6/17/23	6/18/23	1	100%
9	Principal Component Analysis	6/17/23	6/18/23	1	50%
10	Pre-Processing techniques	6/17/23	6/18/23	1	50%