Fernando Reyes

Introduction

I will be reflecting on the lab exercise this week. The purpose of the lab was to explore machine learning and make my own model score a higher accuracy score than the prebuilt model. I will explain my process throughout the lab.

Description of Experience or Topic

Machine Learning builds itself on data that is provided to make predictions and identify patterns. There are also 3 main types of Machine Learning. Supervised Learning is trained off labeled data. It has 2 main examples. Classification is predicting categories, and regression is predicting continuous values. In other words, there are inputs and correct answers provided. Unsupervised Learning finds hidden patterns by clustering and using dimensionality reduction. There's only input features for this method. Reinforcement Learning goes through trial and error. For example, an autonomous vehicle's "reward" would not be crashing. The focus was on Supervised Learning along with ML workflow.

Personal Reflection

I initially believed I knew a good amount of this already based on my AI history class, however I was mistaken. Despite learning the material, my experience taught me otherwise. From my experience, I learned how the ML process works, and how it works with different types of data. Primarily, this one was focused on wine quality. In the end, I experimented with different features to score the highest accuracy. It took trial and error, and I tried over 50 times, and I scored the highest accuracy I could find.

Discussion of Improvements and Learning

This lab helped me grow my understanding of Machine Learning principles and processes. I learned how to navigate datasets and understand visualizations. I also learned the three different types of learning, which can all be used in future model testing's. It's also important to note that each model has its strengths and weaknesses. It will be up to me to find out which will be preferable depending on the problem.

Conclusion

In conclusion, I learned Machine Learning, the ML workflow, the different types of learning, and what type of data to work with, along with reflecting on my experiences and applying this to real world applications. I will go on to apply this knowledge for future labs when the time comes. I will also keep practicing and making my own datasets for fun to see what I

can do with what I learnt. My experience has been a fun one, and I learned a lot about how machines “think” and formulate patterns.