

At first, machine learning felt overwhelming because the workflow had so many steps that didn't seem connected. There was loading the data, cleaning it, splitting it, choosing a model, training it, and then testing it. It all seemed like a lot to handle. But looking at the wine dataset made it clearer how the steps flow into each other. Each part builds on the one before it, and together they form a process that leads to a model capable of making predictions.

One thing that stood out to me was the difference between supervised, unsupervised, and reinforcement learning. Supervised learning is when we already know the answers and just need the model to learn the patterns, like classifying the wine types. Unsupervised learning is when we don't have the answers and just want to see patterns, like grouping customers. Reinforcement learning feels the most different, because it's about trial and error with rewards, kind of like training a pet.

I also learned a lot from comparing models. Logistic Regression seemed simple, but it couldn't handle the messy groups in the wine dataset. The Decision Tree did way better because it could deal with more complicated patterns. That helped me understand why different models work better for different problems, instead of just assuming the best model is always the same. The part I found most challenging was evaluation. At first, I thought accuracy was the only thing that mattered, but then I learned that tools like the confusion matrix and classification report give a much clearer picture. They show where the model is strong and where it struggles