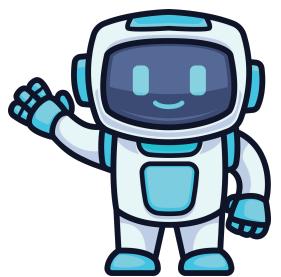




End-to-End AI Development: Learn, Build, and Deploy Intelligent Systems

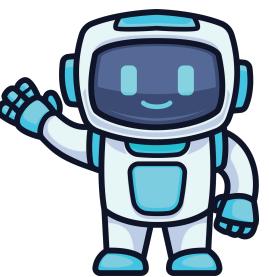
Day 2 : Introduction to Machine Learning



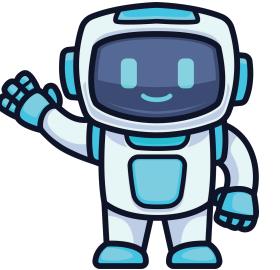
Goal of This Session

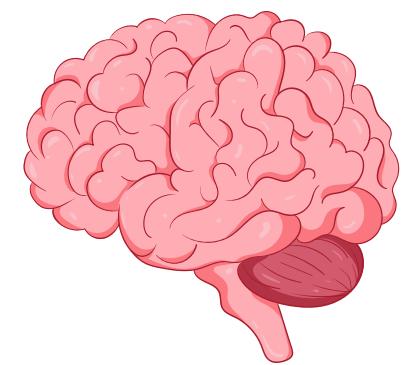
By the end of this session, participants will:

- Understand what ML really does
- Recognize when to use ML
- Build and run their first ML model
- Understand why models fail (overfitting)

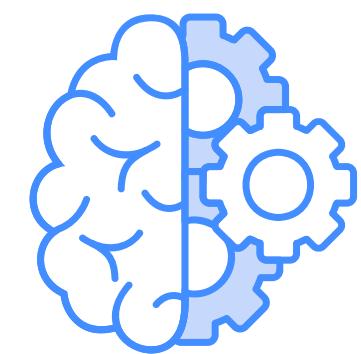


If I give you past house prices and sizes, can you predict the price of a new house?





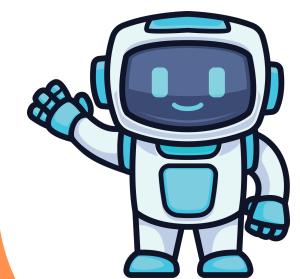
Humans look for patterns

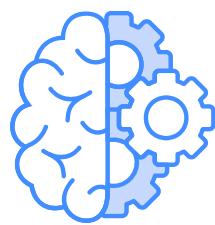
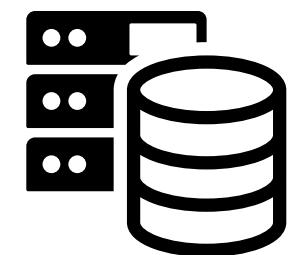


ML does the same thing automatically



The idea is that **ML** = Learning patterns from data

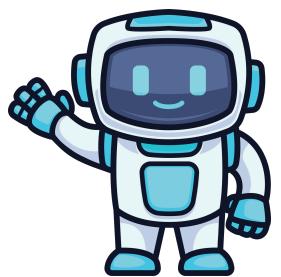




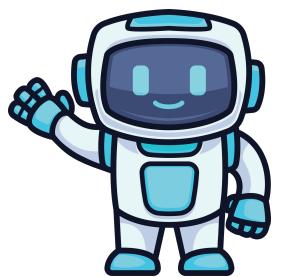
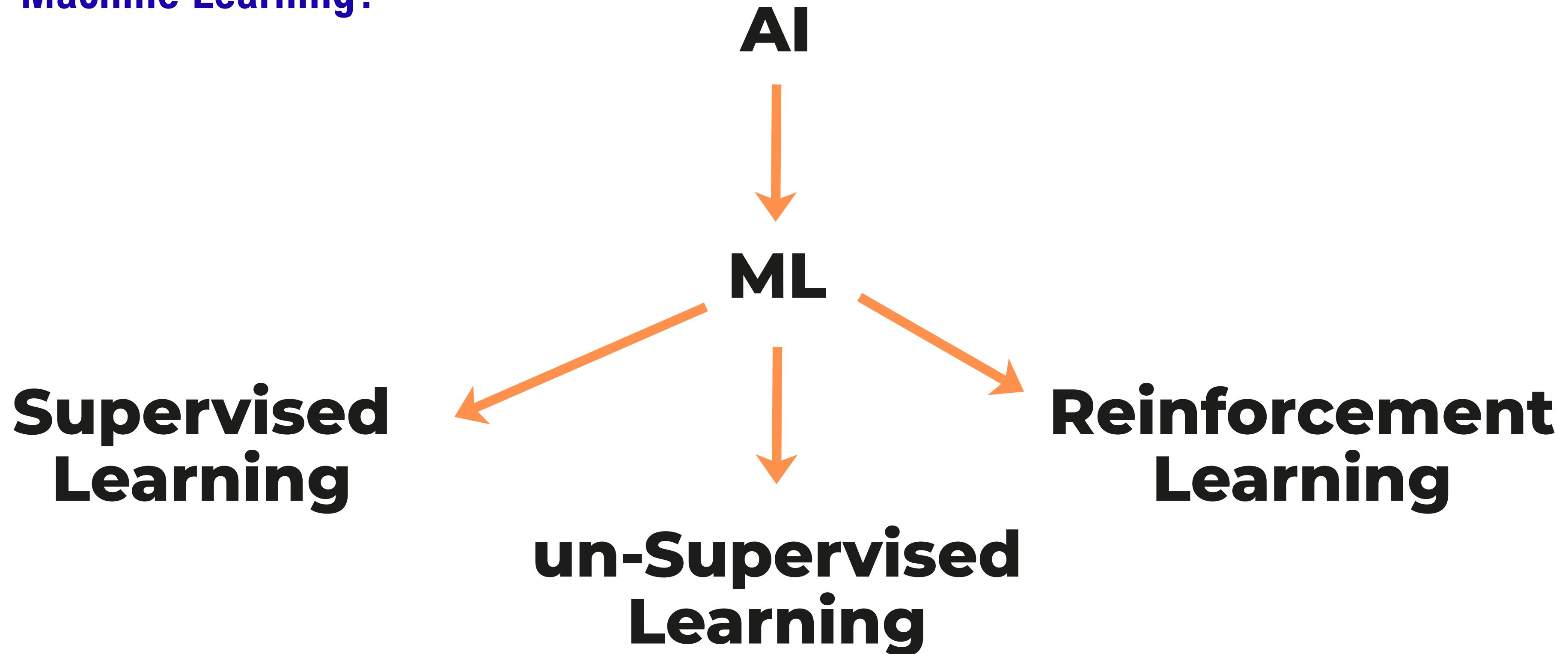
Data → ML Model → Prediction

for the previous case :

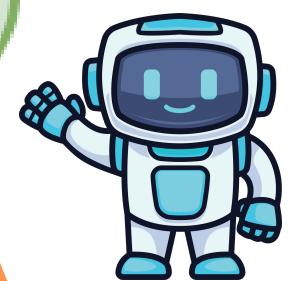
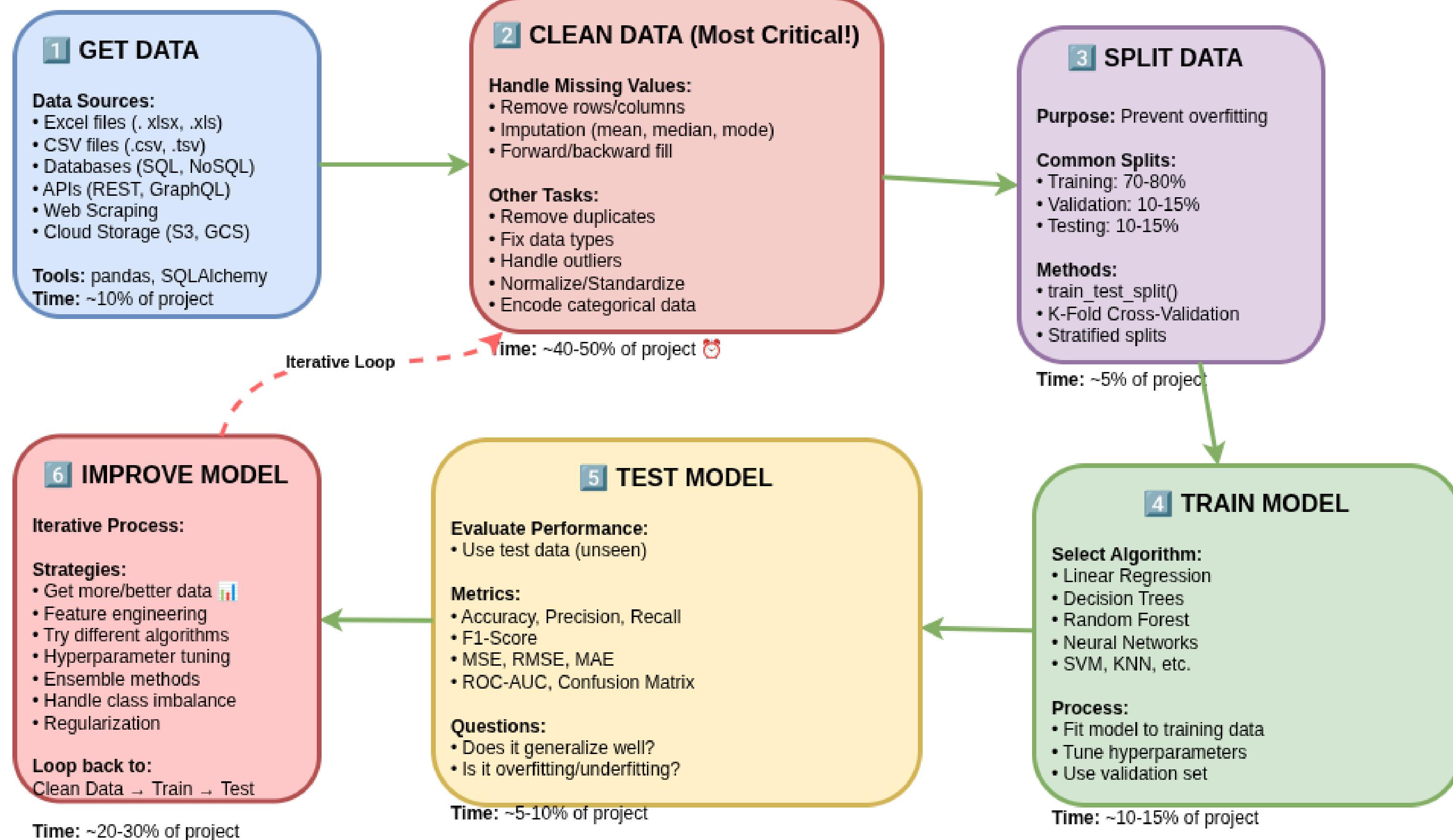
House Size → ML Model → Price



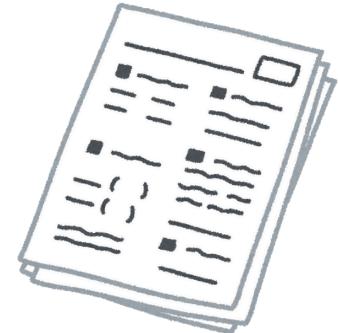
Machine Learning?



Machine Learning WorkFlow



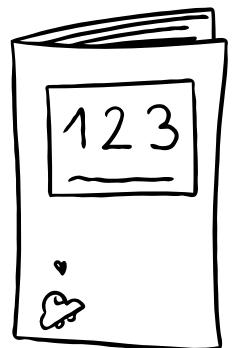
Train / Validation / Test



For example a student start revising for an exam from previous courses



so the courses are the Training Set



While he is revising, he is doing exercises at the same time



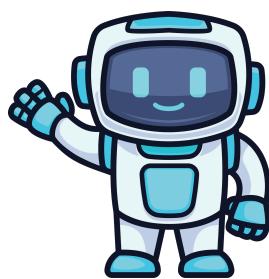
so the exercises are the Validation Set



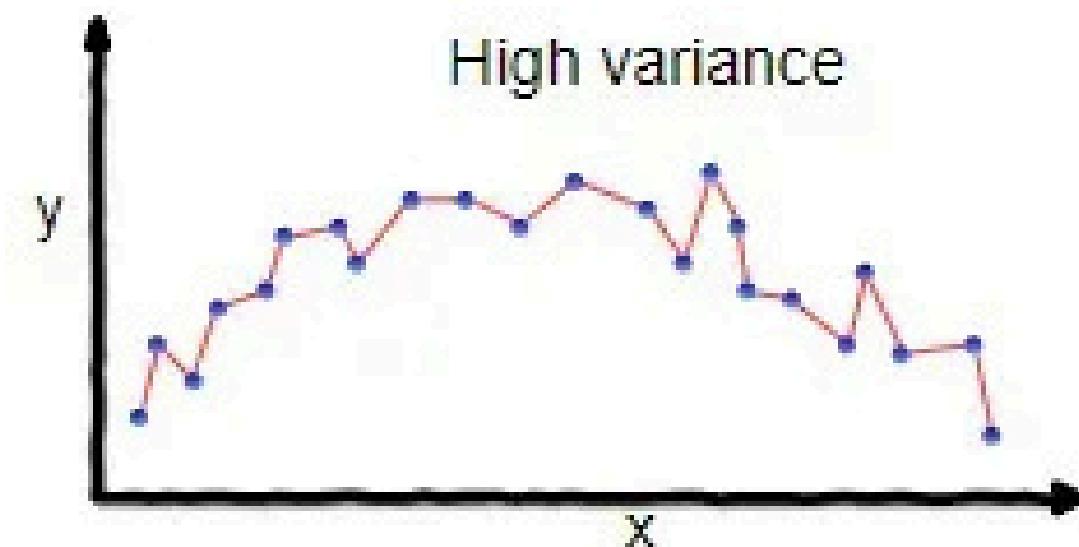
After all he went to the exam, so now the student will be tested for real



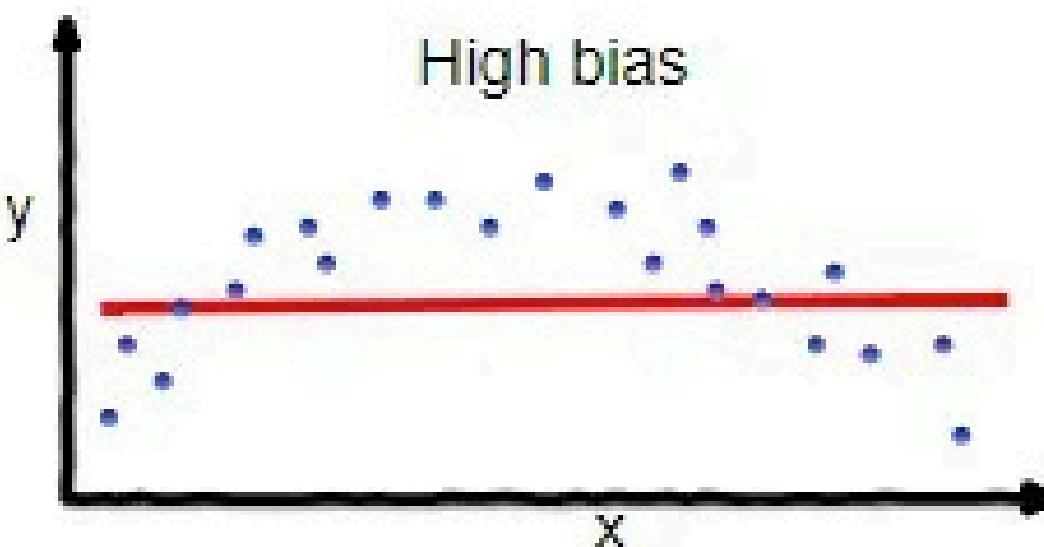
so the exam is the Testing Set



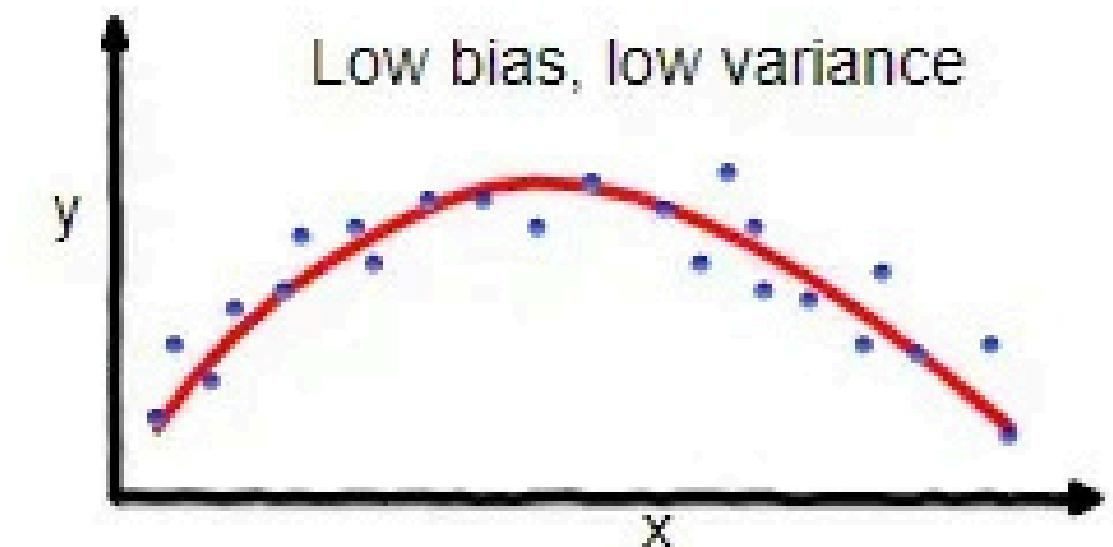
Overfitting & Underfitting



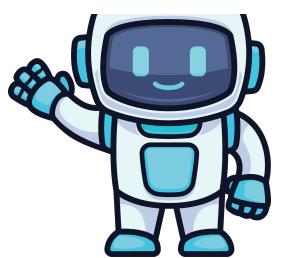
overfitting



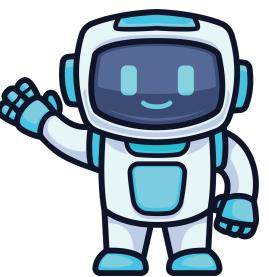
underfitting



Good balance



First ML Model – LIVE DEMO



Thank You For your Attention



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