Homework 2

Part 1. Reflections on Homework 1

The takeaways/lessons learned are to make clear visualization and to avoid code in presentation.

Clear Visualization:
Effective Communication: Clear visualization is essential for effective communication, especially in presentations. Visual elements like charts, graphs, images, and diagrams can make complex information more understandable. They help the audience grasp the main points quickly and retain the information better.
Simplifies Complex Data: Visualizations can simplify complex data by distilling it into a format that is easy to comprehend. For instance, a well-designed chart can replace pages of data and convey the same information more efficiently.
Enhances Clarity: Visual elements can enhance the clarity of your message. Whether you're explaining a concept, showcasing trends, or presenting statistics, visuals add a layer of clarity that words alone often cannot achieve.

Avoid Including Code in Presentation:
Focus on the Message: Presentations should primarily focus on conveying the main message or content to the audience. Including code, especially complex or lengthy code, can divert the audience's attention away from the core message. It may confuse non-technical stakeholders or those unfamiliar with coding.
Code Can Be Overwhelming: Code can be overwhelming for many people, particularly those not well-versed in programming. It can make the presentation seem technical and intimidating, which may not be the desired tone for a general audience.

Part 2. Create a model card

Property	Decision Tree	Naive Bayes	K-Nearest Neighbor	Logistic Regression	Support Vector Machine (SVM)
Parametric or Non-parametric	Non-parametric	Parametric	Non-parametric	Parametric	Parametric
Input (Continuous, Discrete, Mixed)	Both	Discrete	Continuous and Discrete	Continuous	Continuous
Output (Continuous, Discrete)	Discrete	Discrete	Discrete	Discrete	Discrete
Can Handle Missing Values	Yes	Yes	Yes	Yes	Yes
Model Representation	Tree structure	Probability	Proximity-based	Linear equation	Hyperplanes
Model Parameters	Depth, Splits	Probabilities	Number of Neighbors	Coefficients and Intercept	Kernel Parameters
How to Make Model More Complex	Increase depth	N/A	Increase K (neighbors)	Add more features or interactions	Use complex kernels
How to Make Model Less Complex	Decrease depth	N/A	Decrease K (neighbors)	Reduce features or regularization	Use simpler kernels
Is the Model Interpretable or Transparent	Semi-interpretable	Interpretable	Semi-interpretable	Interpretable	Less interpretable