A Taste of Machine Learning: Video Presentation

Your video presentation will be peer and teacher assessed according to (!) the extent to which the instructions in the table below are carried out, and (2) agreement with the following statements:

- The information is presented coherently. Although the instructions in the table below have been carried out, the presentation moves smoothly from one topic to the next and is not simply answering questions.
- The presentation looks professional. Slides, code and plots are clear and informative.
- The presentation sounds professional. Narration is clear, with few distracting sounds or interruptions. (In other words, the narration is well scripted.)

Section	Time	Instructions
Introduction to machine learning	1-2 minutes	• Explain the term, *machine learning*. • Explain the difference between *supervised* and *unsupervised* learning. • Explain the difference between *classification* and *regression*.
Introduction to the data set	1-2 minutes	• Give a brief history of the data set. • Using images of the species, explain the *numerical* and *categorical* data that stored in the data set.
The kNN algorithm	1-2 minutes	• Explain what type of machine learning can be done using the kNN algorithm. • Give a brief overview of how the kNN algorithm works, both for classification and regression.
Cross validation	1-2 minutes	• Explain the purpose of cross validation. • Explain how leave-one-out cross validation works.
The k-means algorithm	1-2 minutes	• Explain what type of machine learning can be done using the k-means algorithm. • Give a brief overview of how the k-means algorithm works.
Implementing kNN	2-4 minutes	• Discuss excerpts of your Python implementation of kNN. • Compare your implementation of kNN for classification and regression. • Explain how you implemented leave-one-out cross validation. • Demonstrate that your code is able to (1) make a classification and (2) predict a petal length. • Show and discuss your leave-one-out cross validation plots.
Implementing k-means	2-4 minutes	• Discuss excerpts of your Python implementation of k-means. • Through the use of animations or a series of plots, show how clusters moved about the data space and eventually settled down. • Compare clusters formed during one k-means run to the species in the data set. • Briefly discuss issues that arise from setting cluster positions randomly in space.