Exercise 8 – Audio classification

Exercise 8 instructions (Due by 15th midnight)

- You are provided a dataset which has 2 kinds of information:
  i. A folder full of audio files of 3 different sounds – dog bark, street music and drilling.
  ii. A csv file which has different kinds of details but the one's relevant for this exercise are filename and class with class ID.
- Your task is as follows:
  i. Build a classical ML classification model by extracting features out of the audio files.
  ii. Use SVD to pick significant features and therefore, perhaps, removing noise. (Numpy has a "truncated_svd" operator)
  iii. Use any ML classification algorithm.
- Save the model and build a separate function (in a separate notebook) to load the model and predict on the three audio samples provided.
- Answer the following questions:
  1. What features did you extract?
  2. What was your choice of truncation factor using SVD?
  3. What other preprocessing did you do on the data?
  4. How good were your predictions?