As my capstone project is an image classification model, I completed unit 32 (“Image Processing and Computer Vision 101”). As I am especially interested in this subfield of ML, many of the techniques shown in the unit stood out to me, such as the object detection/image segmentation subunit. Initially, I thought I might use image segmentation in my capstone to seek out the areas of a CT scan that contained intracranial hemorrhaging (ICH), however this proved to be too difficult as the computational strain of the massive dataset was already hard. So, I settled for the classic convolutional neural network (CNN) for basic classification, which perfectly suited my needs while being complex enough to learn patterns in my complex data. Additionally, as my data were 3-dimensional tensors, simply flattening my data and passing it into a vanilla NN would not work, thus another advantage of using CNNs. Also, since Keras had many pretrained CNNs already available, I was able to fine-tune one of these for feature extraction, helping to reduce to load on my poor GPU.

Note: I planned to use CNNs for my capstone from the start, as I had previous exposure to them. However, this subunit helped me understand the practical implementations of them, such as using TensorFlow. I also found unit 32.4.3 (DL for Medical Imaging of Cardiac Disease) especially helpful as it introduced me to some terminology and practices that the medical world uses, and helped me adjust my model accordingly, e.g. the structure of a CT scan.