Homework

- Reading - Raschka pages 417-421
    - Seminal Neural Net papers: Perceptron, Backprop, ImageNet Classifier (aka AlexNet). The math is less important than understanding the intuition. **Write 1-2 pages (total) summarizing what was unique/novel about each of the three papers, and how/why those techniques matter**. You don't need to deeply understand the math - skim that part if not interested. (If you use an LLM you risk not knowing the details on a future quiz)
    - Watch Feedforward YT video, Backprop YT video
- Coding
    - Download the MNIST handwritten digits dataset (see p 394 in Raschka, "Obtaining and preparing the MNIST dataset").
    - Write a neural network w/1 or more hidden layers in Keras to classify the hand-written digits.
        - You'll need to one-hot encode the labels and apply softmax.
        - **You can use Raschka's load_mnist function verbatim, but the Keras / NN must be your own**.
        - Report accuracy, precision, recall metrics. **Try to figure out how to plot the loss curve using return value from call to fit().**
    - Extra credit: write a neural network that over-fits to the Boston housing dataset. Explain how you went about overfitting and how you validated that it was overfitting.