Practice Problems 8

Machine Learning Course

---

1. Build and train a `keras` sequential model to classify digits form the *mnist* dataset. The model must have a hidden dense layer of 128 neurons with a *relu* activation function.

2. Now build and train a `keras` functional model for the same problem. The model must have a hidden dense layer of 128 neurons with an activation function defined by the following function:

$$\text{activation}(x) = \begin{cases} 0 & \text{if} x < 0 \\ \sin(x - \frac{\pi}{2}) + 1 & \text{if } 0 \leq x \leq \frac{\pi}{2} \\ x - \frac{\pi}{2} + 1 & \text{otherwise} \end{cases}$$

3. Repeat the previous questions but now using `PyTorch`.