Ammar’s Sumamry

- Read about the problem

- import libraries

- import dataset

- Try to understand the dataset

- Check the distribution of target classes

- Including viewing some random images

- Data Preprocessing:

- Scale the train & test images (0, 1) instead of (0, 255)

- Add a channel dimension since it is 1 channel so not already there

- encode the target so the machine does not understand it is a regression problem

- Build 2 models:

- 1- Vanilla CNN model as the minimum requirements

- 2- Another model with Recall of class 6 as the metric since it was the least accuracy in the 1st model

- Optuna tuning was preformed with this

- It improved recall of class 6 but gave similar accuracy with the vanilla one

- For the final model, the vanilla model was chosen since both gives similar results but it is less costly

- We saved the model

- Prediction part:

- Loaded the model

- Chose a random image from the testing data (since we don't have a real data to test it)

- Apply scaling

- Add a forth dimension (number of observations to be predicted -in this case it is 1)

- Predict

- It gave a correct prediction