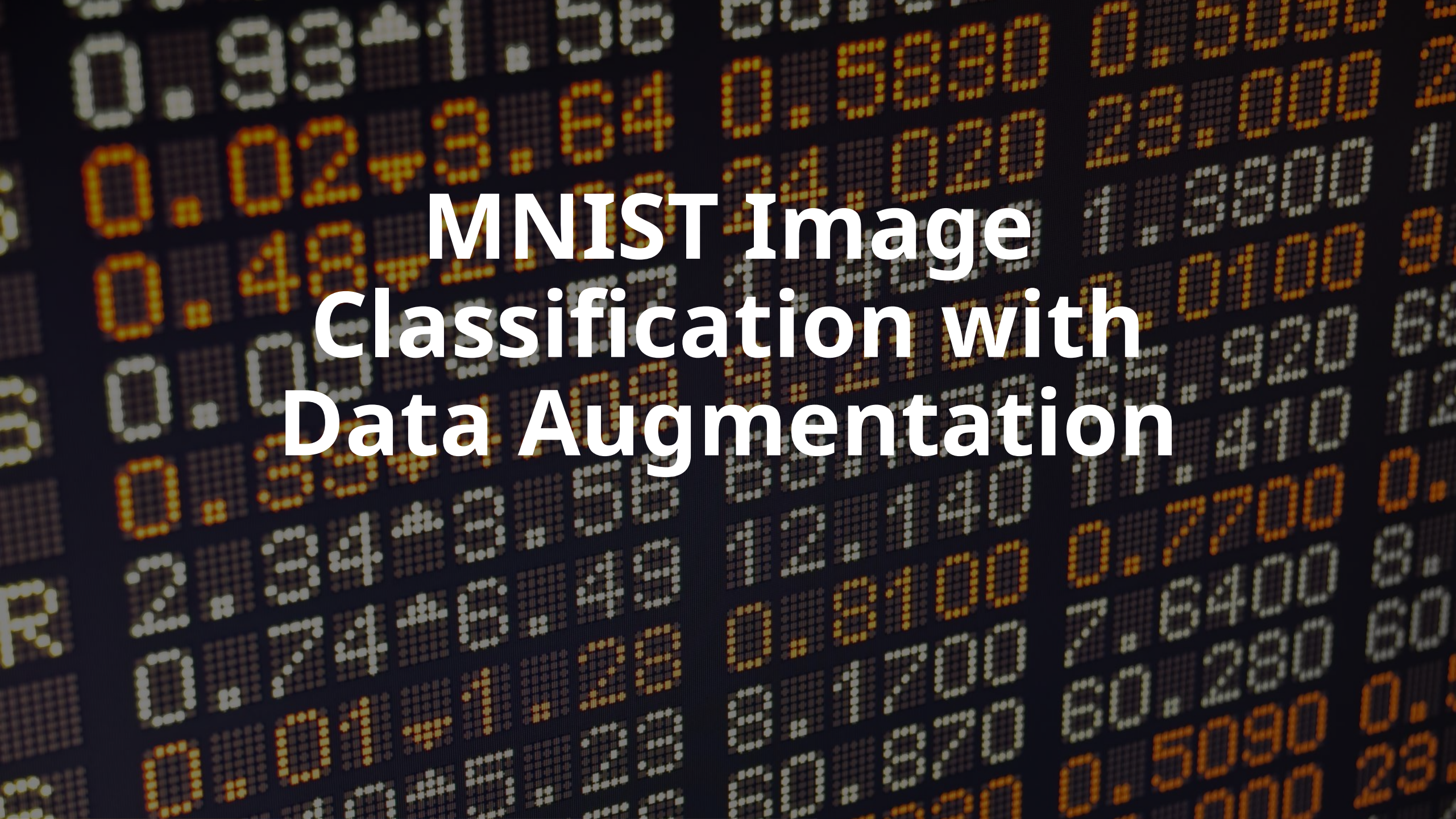

MNIST Image Classification with Data Augmentation

TEAM MEMBERS

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DATASET

MNIST dataset, a collection of 28x28 grayscale images of handwritten digits (0-9).

Consists of 60,000 training images, and 10,000 test images.

DATA PREPROCESSING

- Reshape and normalize the input images to a range of [0, 1].
- Apply one-hot encoding to the labels for categorical classification.

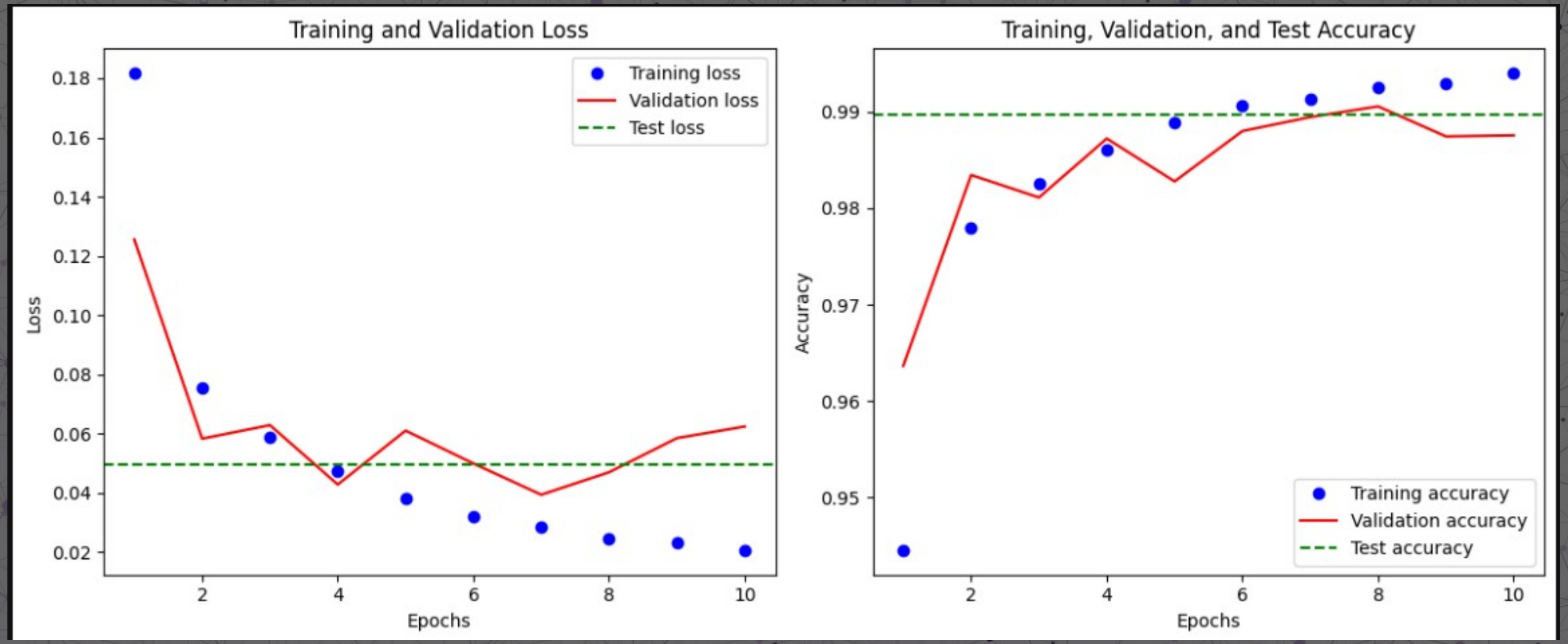
DATA AUGMENTATION

- Implement data augmentation using the ImageDataGenerator from Keras.
- Augment training images with rotations, shifts, shearing, and zooming to increase dataset diversity.

MODEL ARCHITECTURE

- Construct a Convolutional Neural Network (CNN) using TensorFlow and Keras.
- Design the architecture with three Conv2D layers and ReLU activation for feature extraction.
- Utilize max-pooling to down-sample spatial dimensions.
- Flatten the output and add Dense layers for classification.
- Use softmax activation in the output layer for multi-class

EVALUATION MODEL




THANK YOU