

1. Loading and Exploring Data

2. Build and Train Model 1 (Simple CNN)

- a. Split into train/test sets
- b. Build CNN model (ReLU activation, softmax output)
- c. Train the model with early stopping

3. Build and Train Model 2 (Improved CNN)

- a. Use data augmentation to expand variability
- b. Use higher image resolution to capture more details
- c. Add regularization (L2)
- d. Train model the same way

4. Evaluate Model Performances

- a. Evaluate models on test set
- b. Compute accuracy, precision, recall, F1-score, loss, ROC-AUC
- c. Generate confusion matrix
- d. Compare results (bar chart/tables)