

# CNN from Scratch - Offline Report

## Submitted by

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## Architecture

LeNet architecture was used

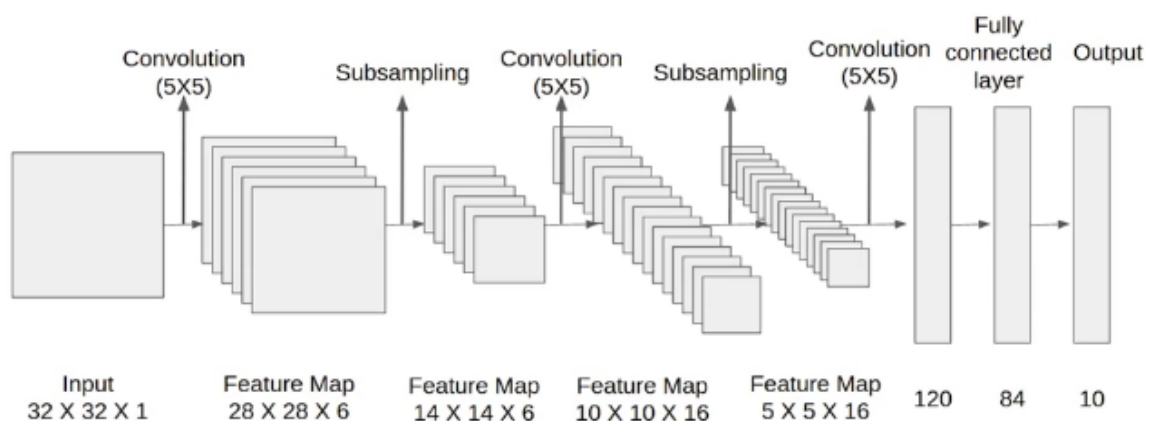
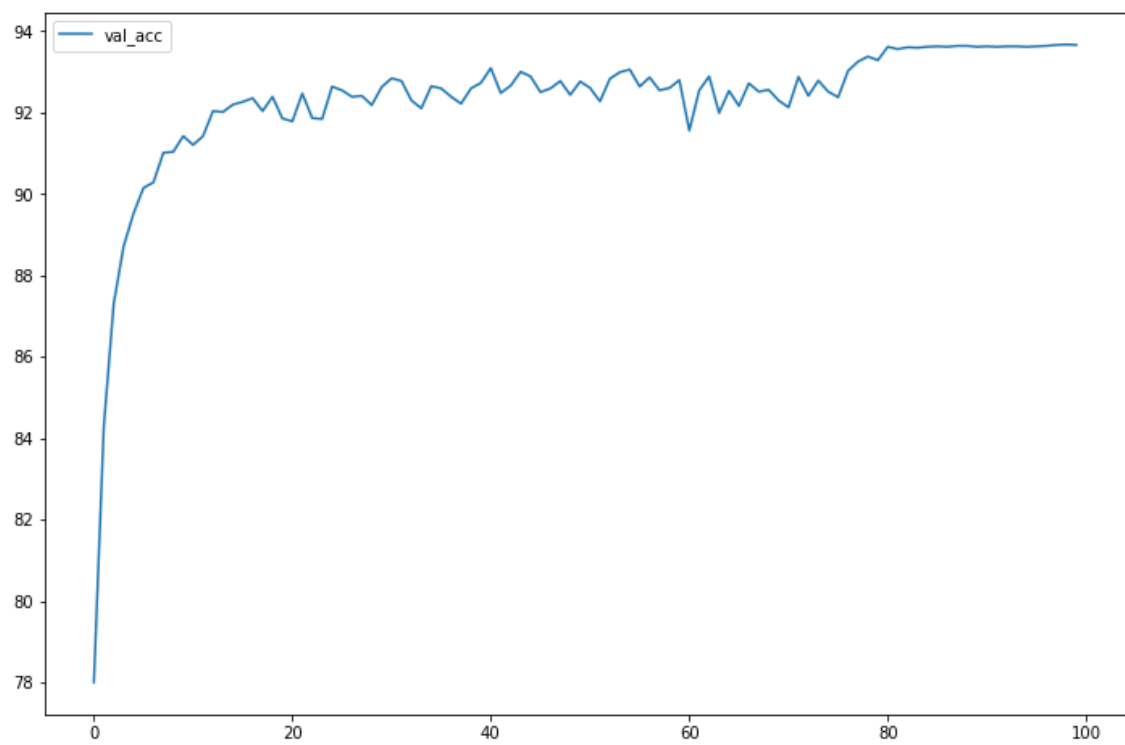
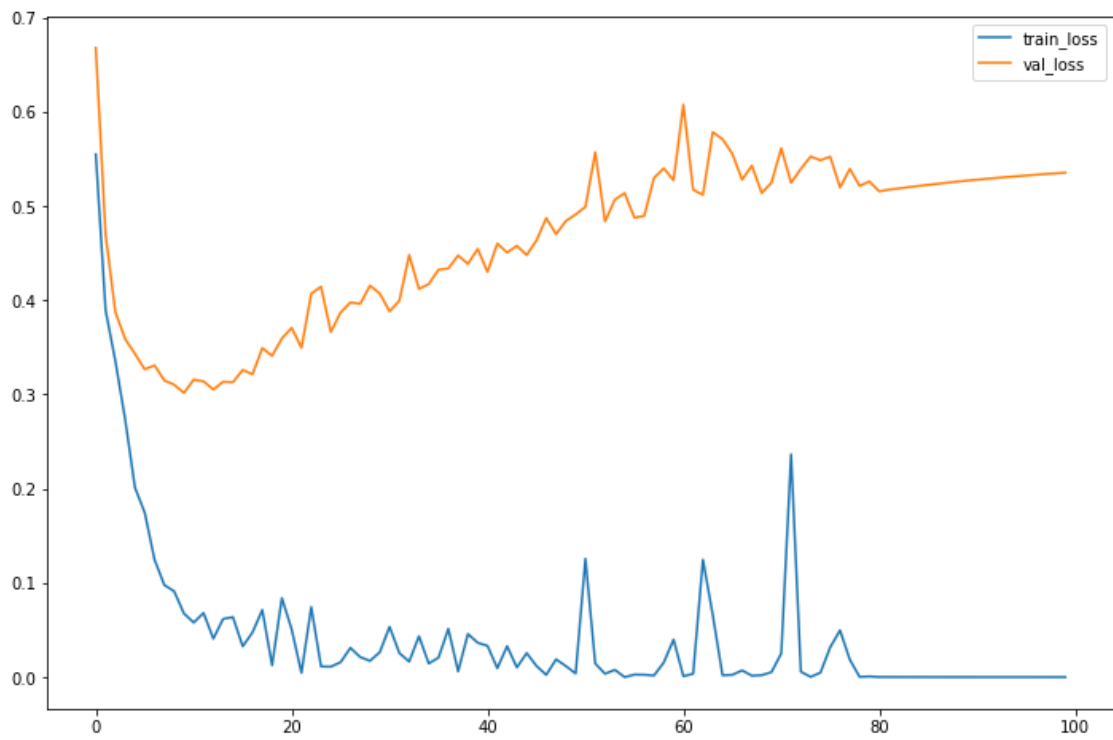


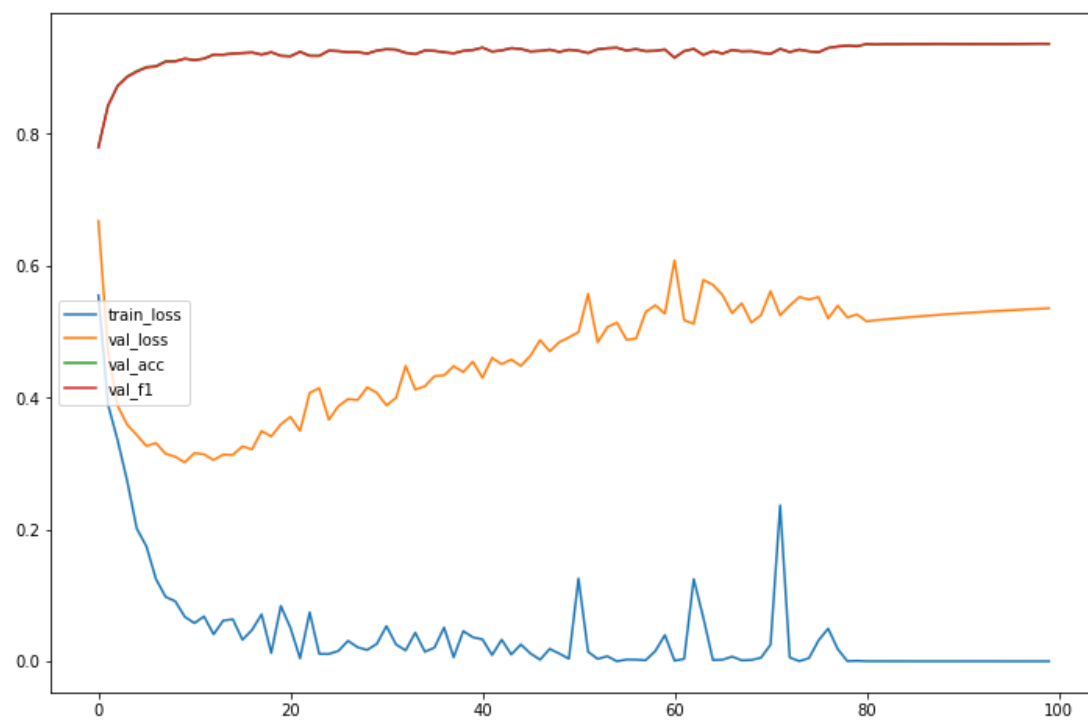
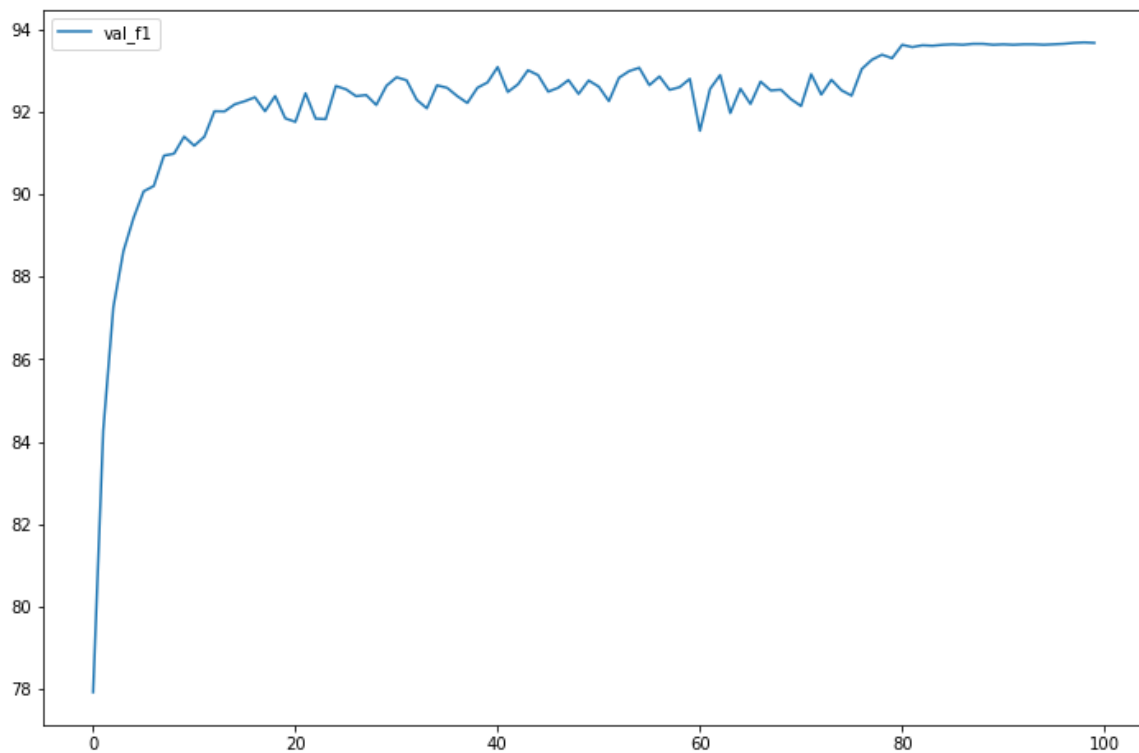
Image was resized to 28 \* 28. Reversed the image color as a preprocessing step.

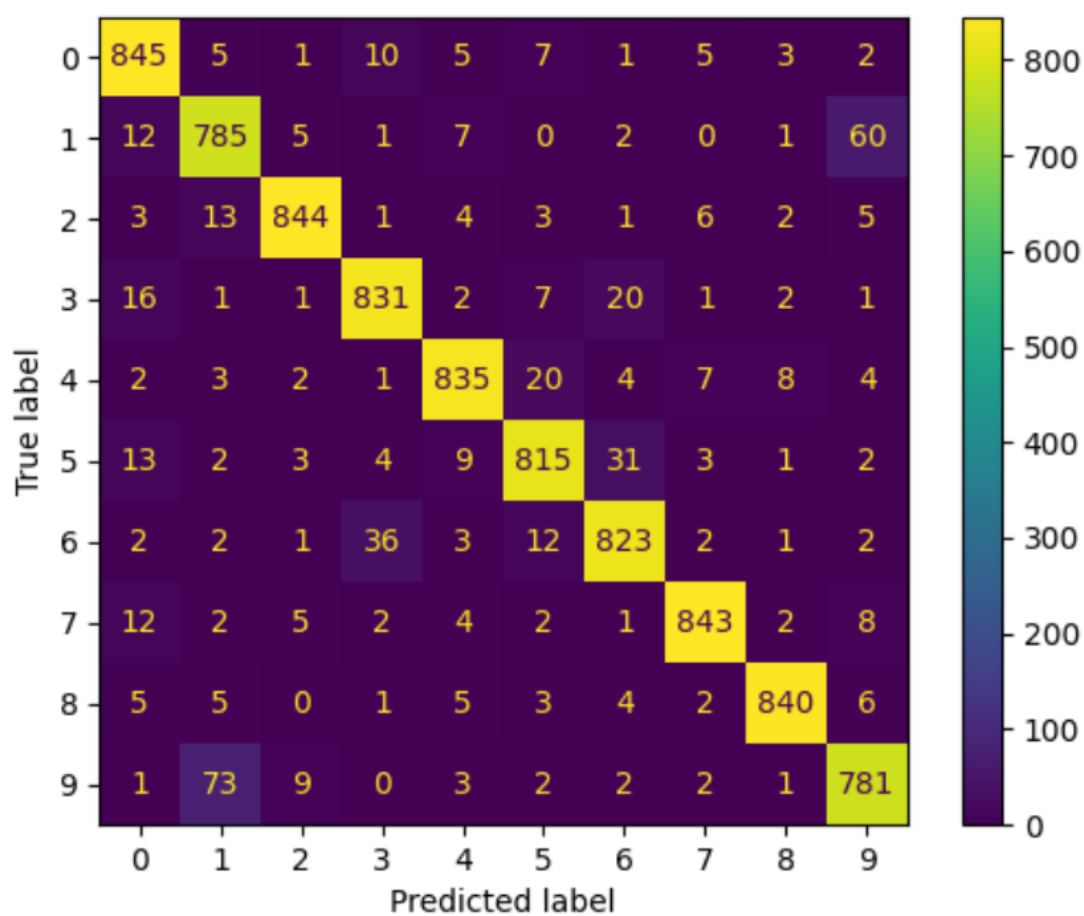
## Metrics Plot

- Batch Size: 32
- Epoch: 100

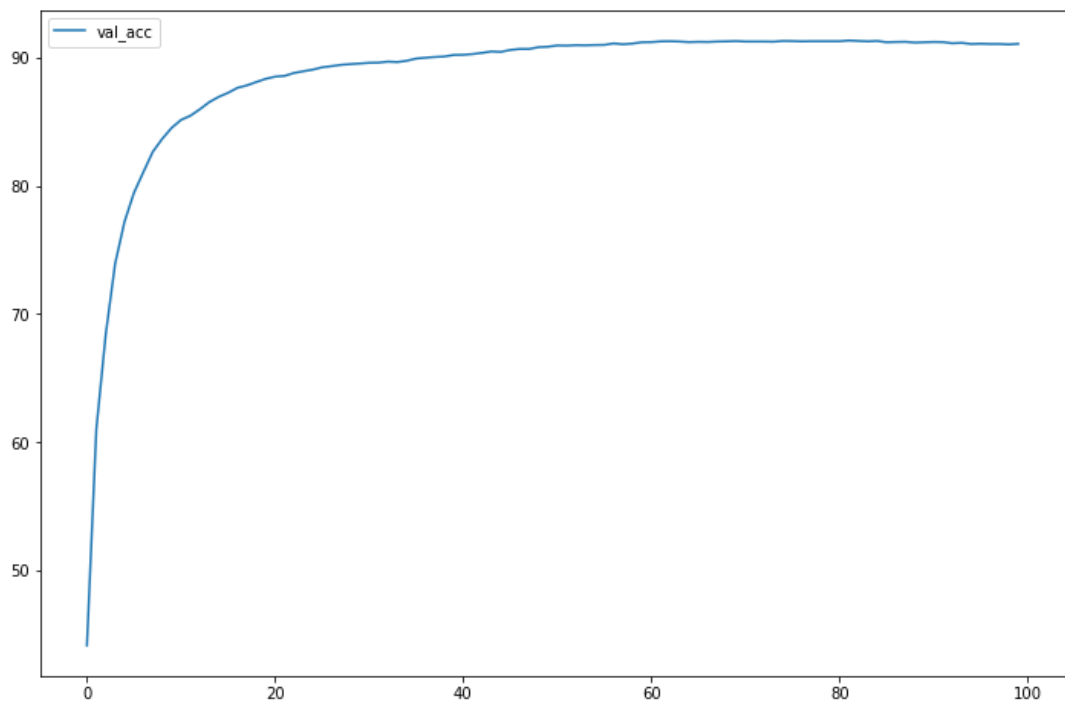
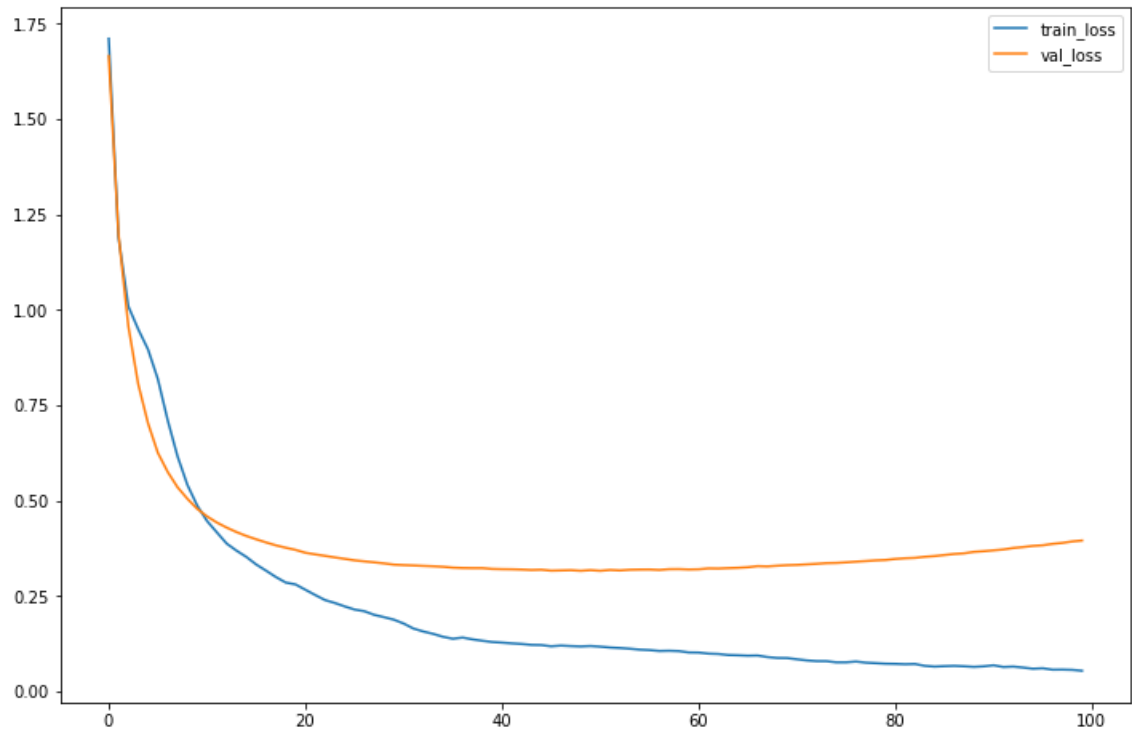
Config 1: Learning Rate: 0.01

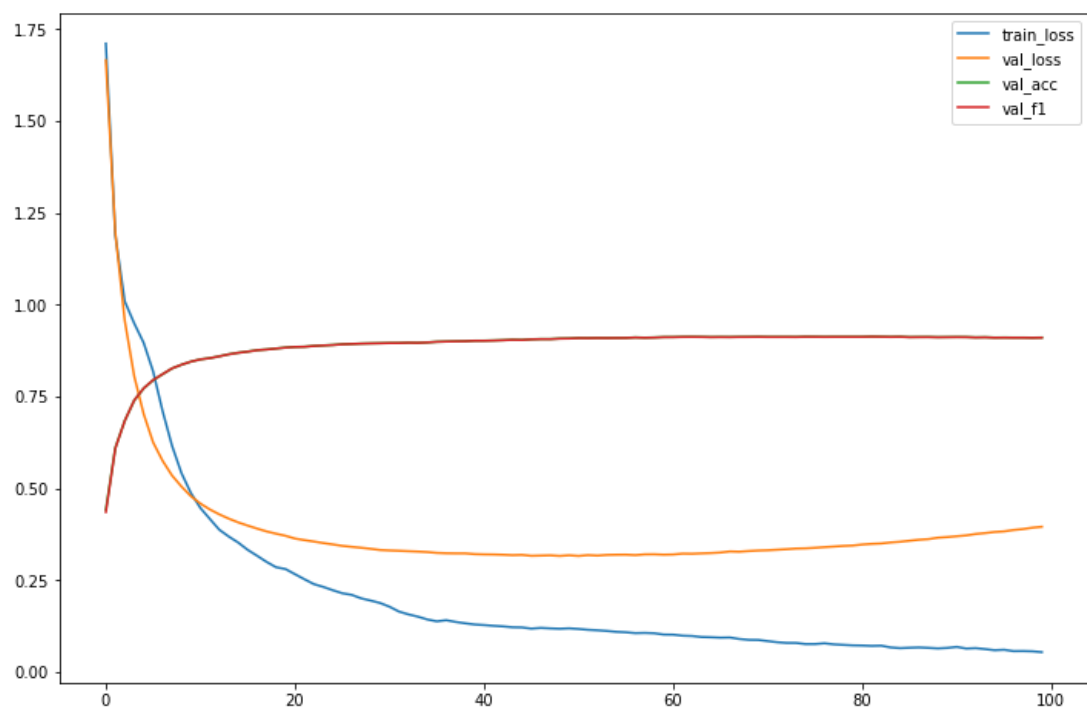
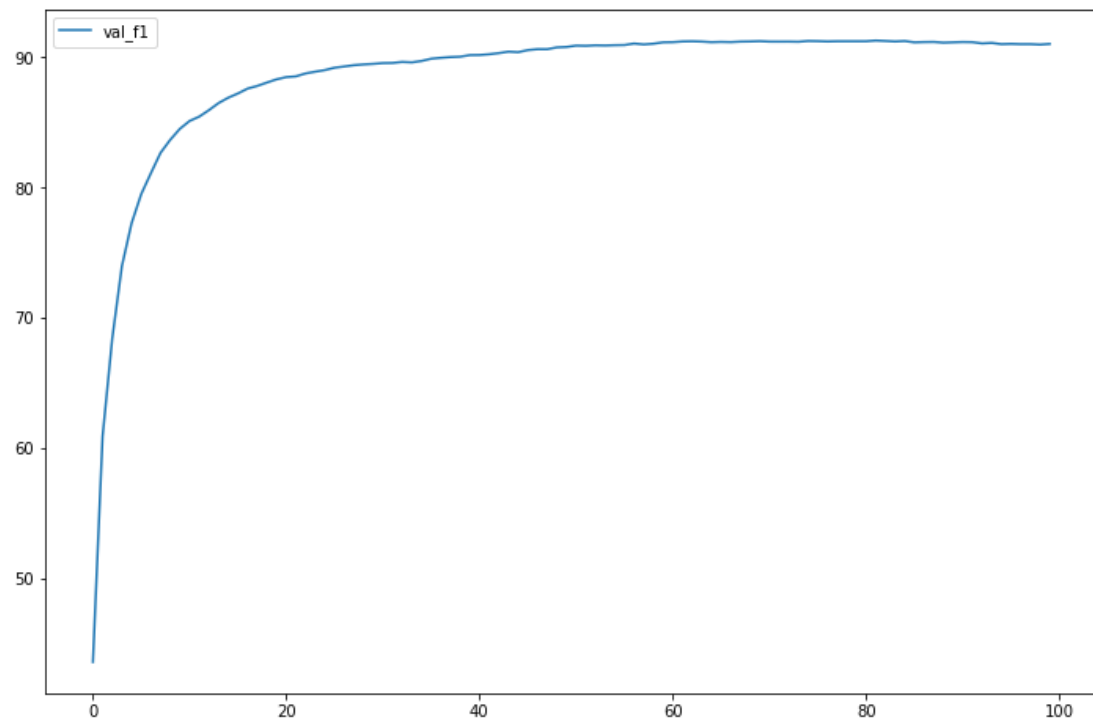


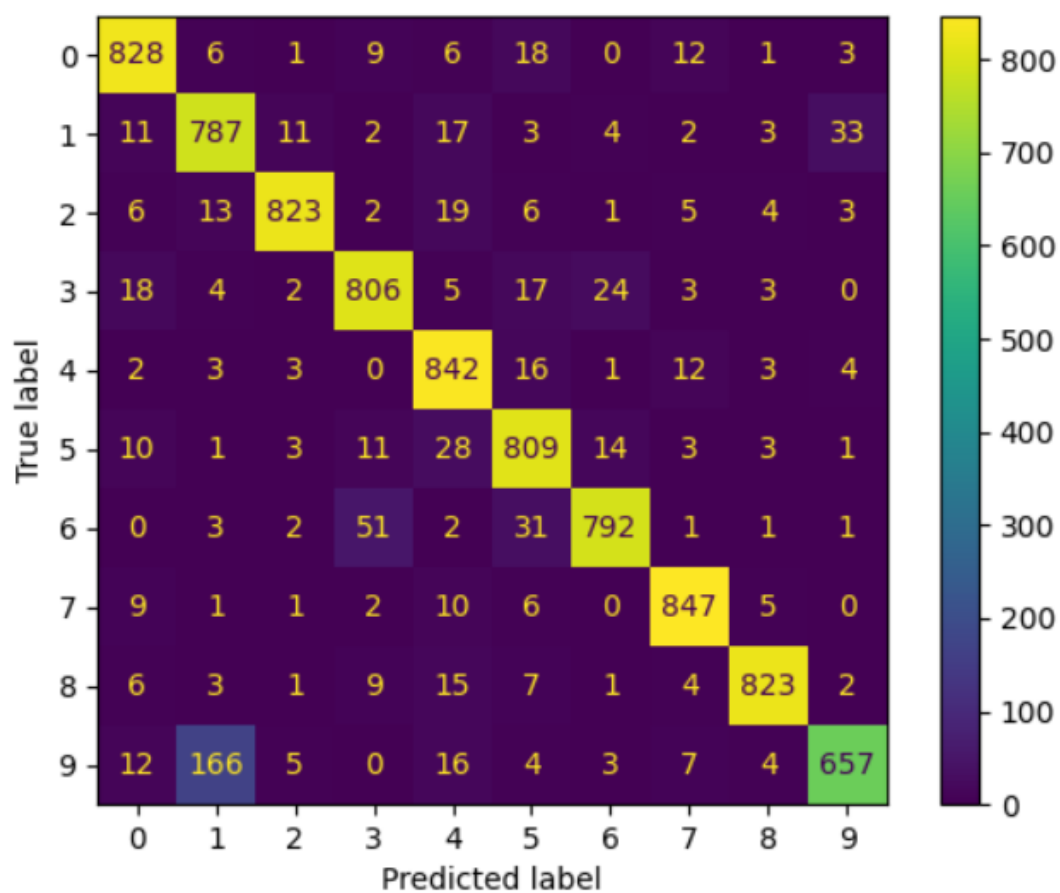




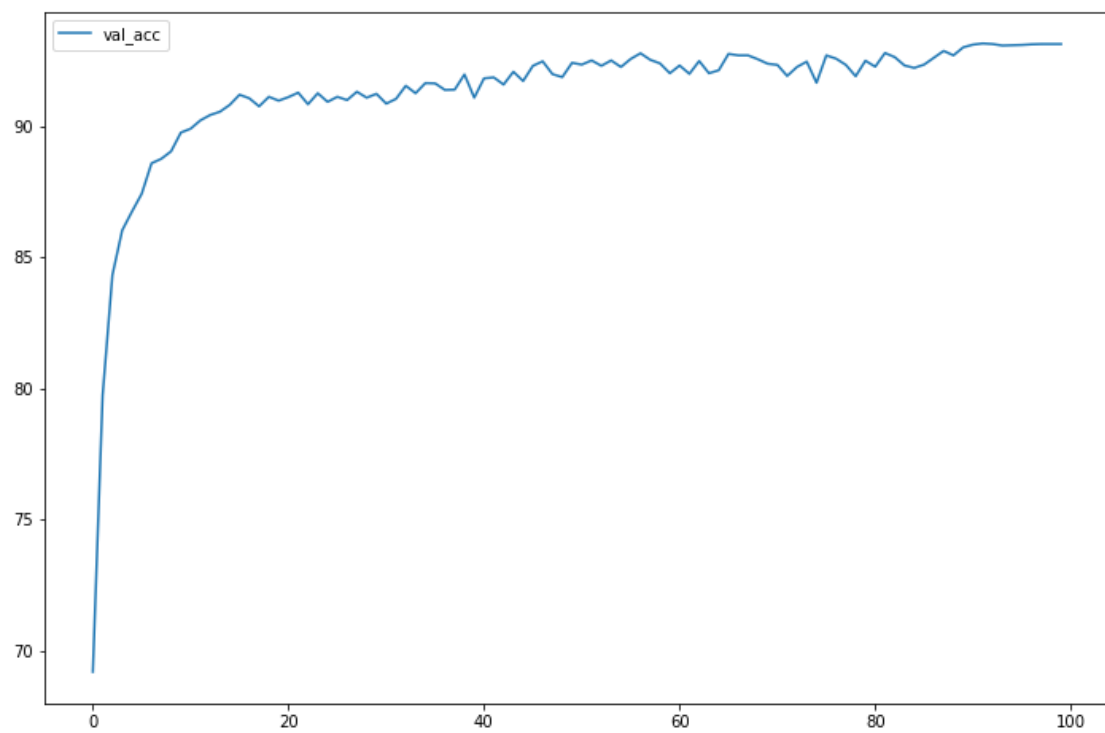
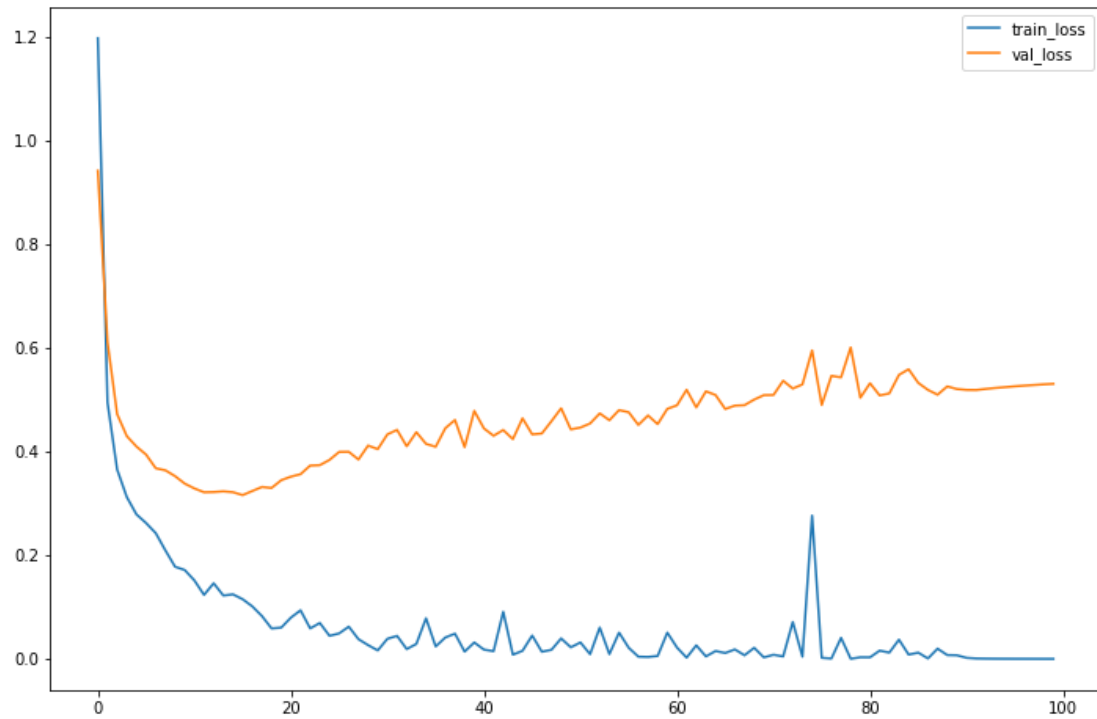
**Config 2: Learning Rate:** 0.001



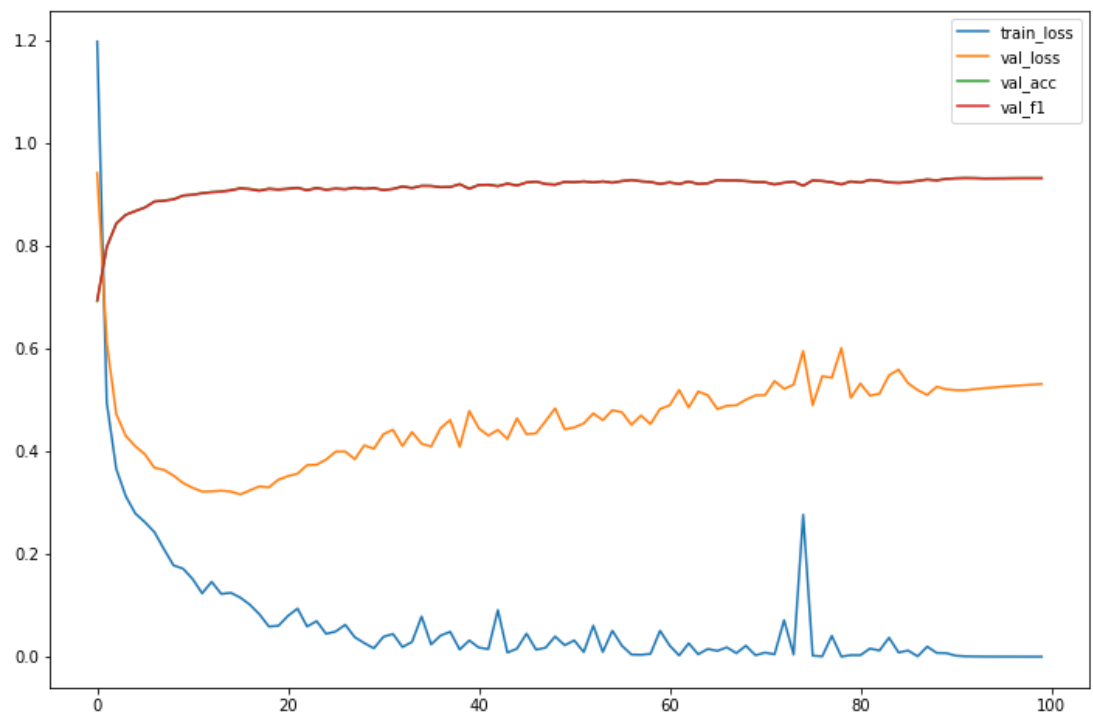
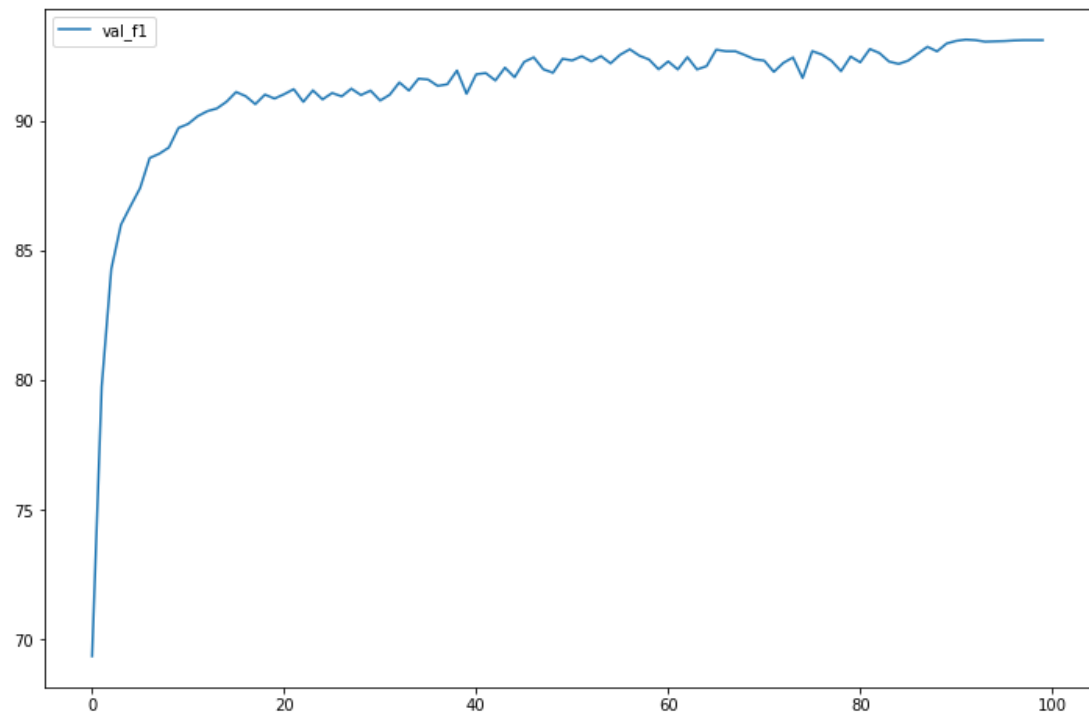


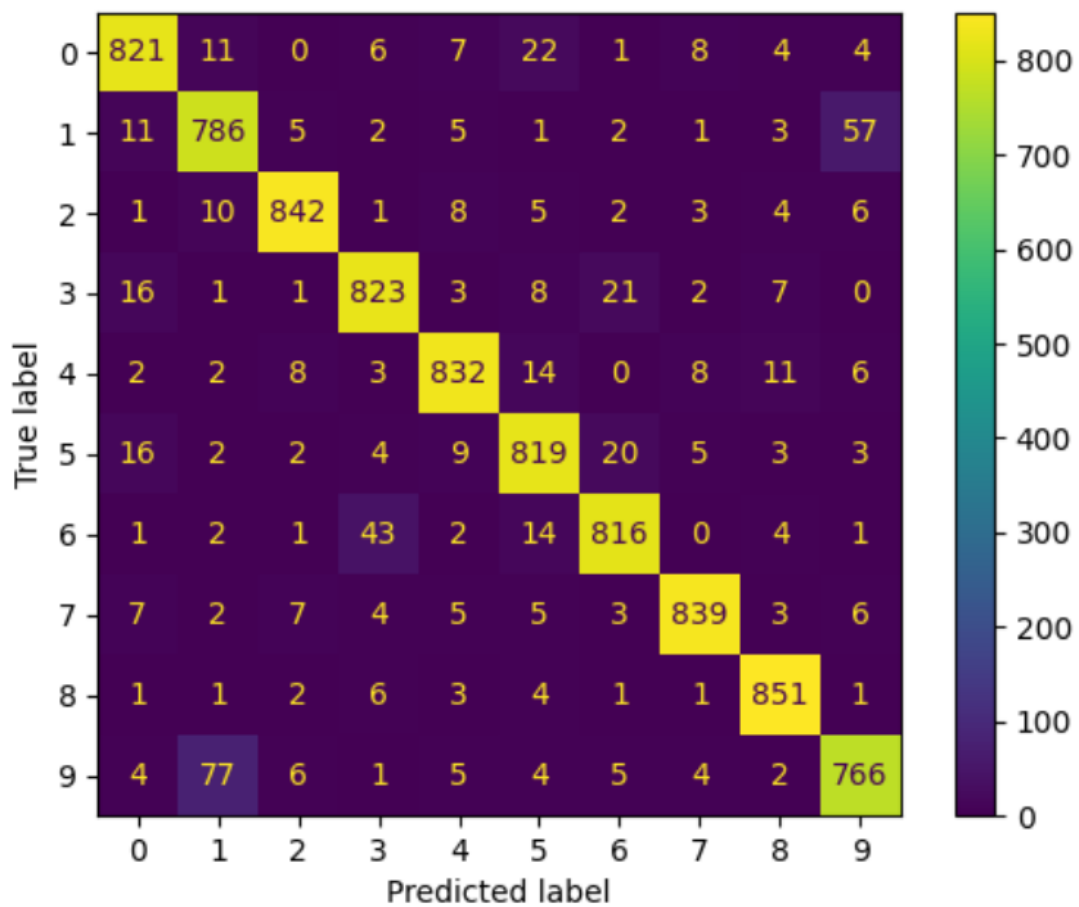


**Config 3: Learning Rate:** 0.005









## Model Performance

Test Set: “**training-d**”

LR	Accuracy	Macro F1 Score
0.01	90.83241657499084	90.76872545471723
0.001	87.88045471213788	87.69548256828512
0.005	89.35643564356435	89.23103771910462