Initial Model

Training and Validation Accuracy

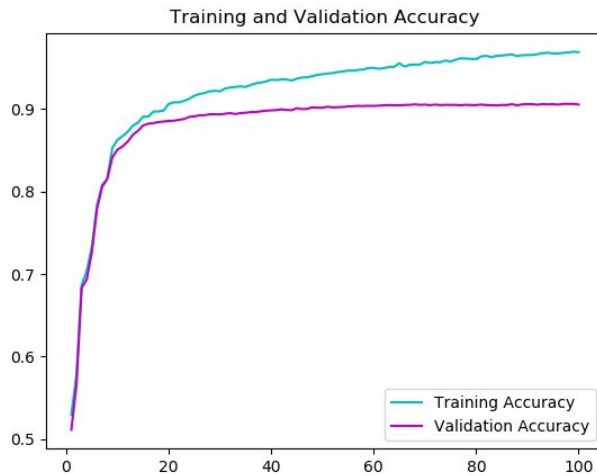**Architecture and Hyperparameters**
Network Architecture - [784, 20, 10]
Epochs = 100
Mini-batch-size = 128
Eta = 1e-3

Performance
Epoch 100 training complete
[Training loss for epoch 100]: 0.3115532549183706
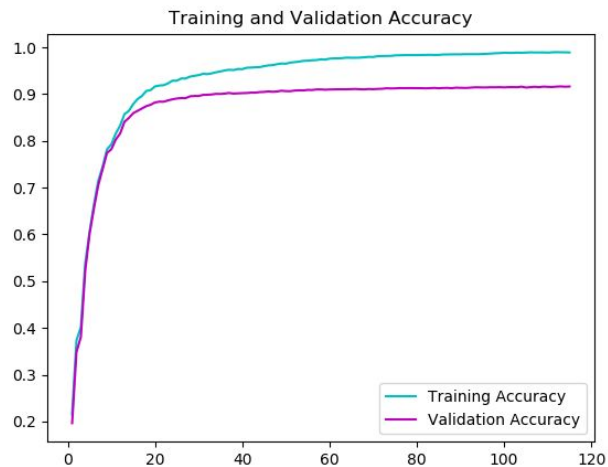[Training accuracy for epoch 100]: 2906 / 3000
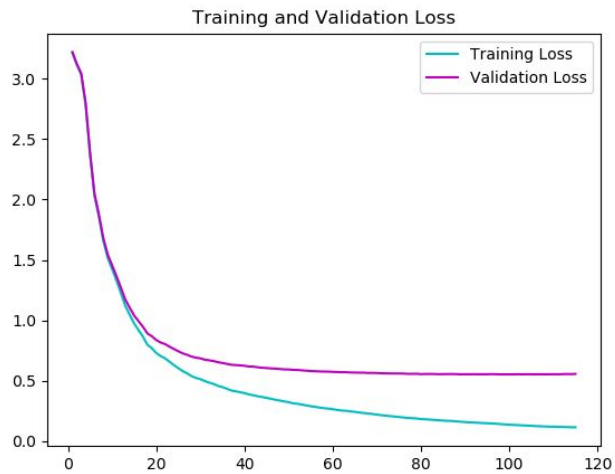[Validation loss for epoch 100]: 0.6146187096581136
[Validation accuracy for epoch 100]: 9053 / 10000
[Testing Accuracy]: 0.9014

2 Hidden Layer – Initial Candidate

Training and Validation Accuracy

Training and Validation Loss

Architecture and Hyperparameters
Network Architecture - [784, 60, 20, 10]
Epochs = 115
Mini-batch-size = 64
Eta = 1e-3

Performance
[Training loss for epoch 115]: 0.11338040120775386
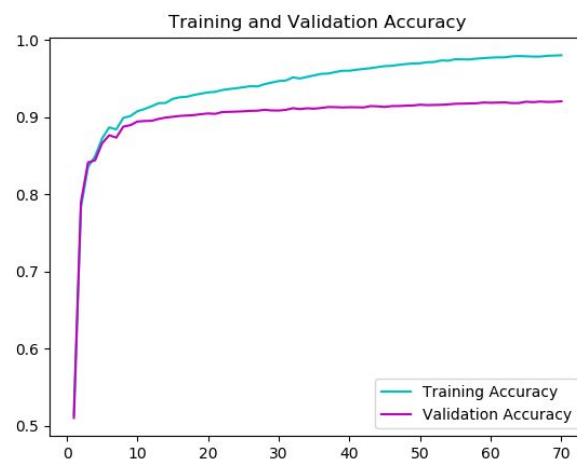[Training accuracy for epoch 115]: 2967 / 3000
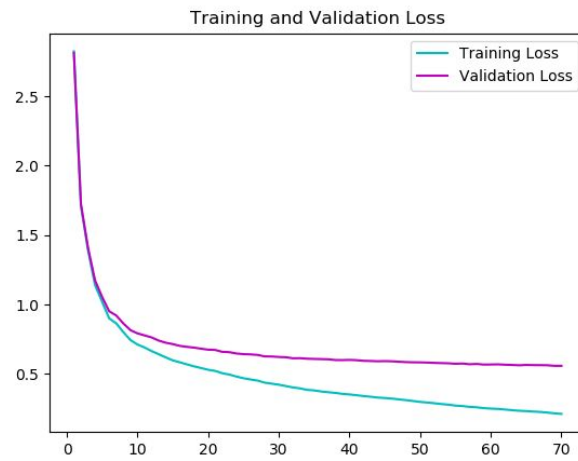[Validation loss for epoch 115]: 0.5555145546177878
[Validation accuracy for epoch 115]: 9162 / 10000
[Testing Accuracy]: 0.9124

1 Hidden Layer – Final

Training and Validation Accuracy

Training and Validation Loss

Architecture and Hyperparameters
Network Architecture - [784, 150, 10]
Epochs = 70
Mini-batch-size = 64
Eta = 1e-3

Performance
Epoch 70 training complete
[Training loss for epoch 70]: 0.21133151635404654
[Training accuracy for epoch 70]: 2940 / 3000
[Validation loss for epoch 70]: 0.557758602173671
[Validation accuracy for epoch 70]: 9204 / 10000
[Testing Accuracy]: 0.9154