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# Transfer Learning Report

## Week 04: Fine Tuning of Neural Networks

[A] Resnet18 without loading weights and training all layers.

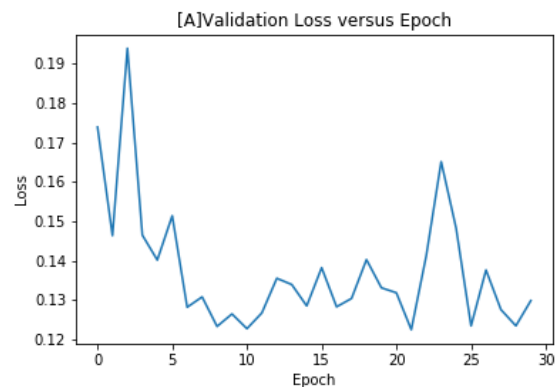
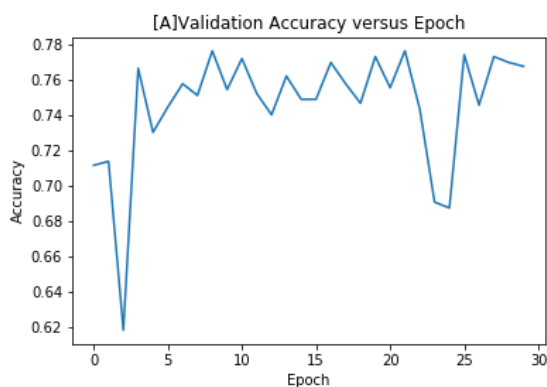
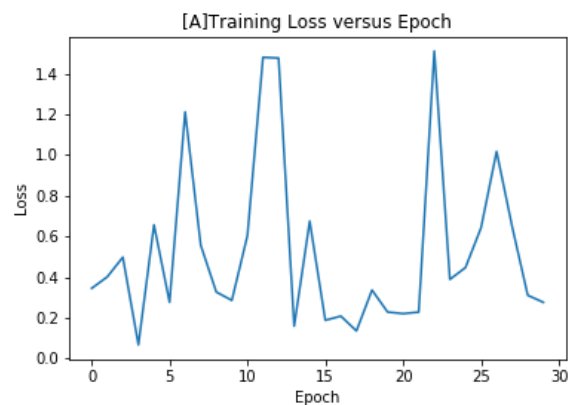
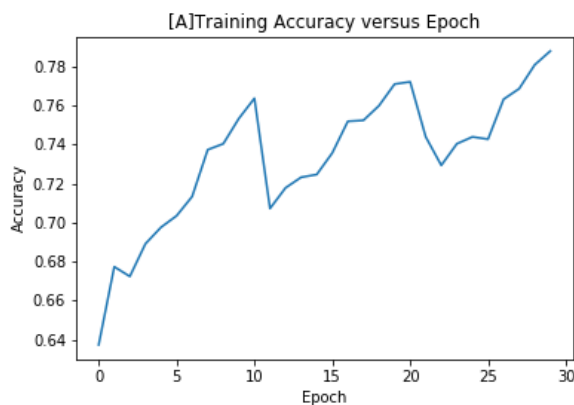
\* Learning rate Scheduler : Cosine Annealing Warm Restarts

[Best Epoch] Validation Loss: 0.12245642230717918

[Best Epoch] Validation Accuracy: 0.7766776677667767

Test Loss: 0.13011215202379645

Test Accuracy: 0.7905701754385965



## [B] Resnet18 loading weights and training all layers.

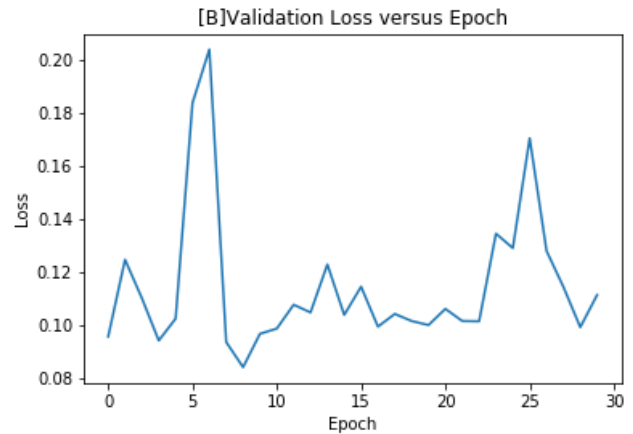
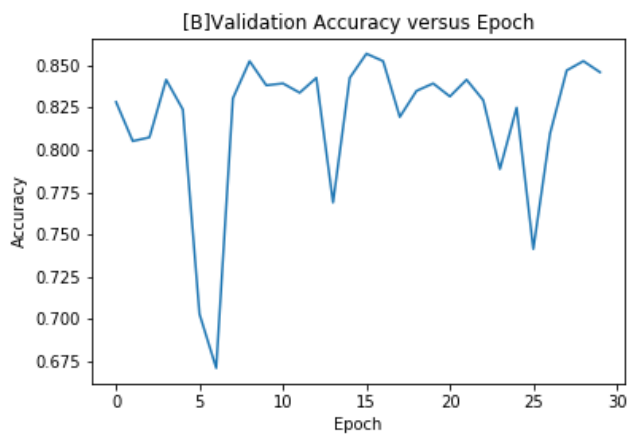
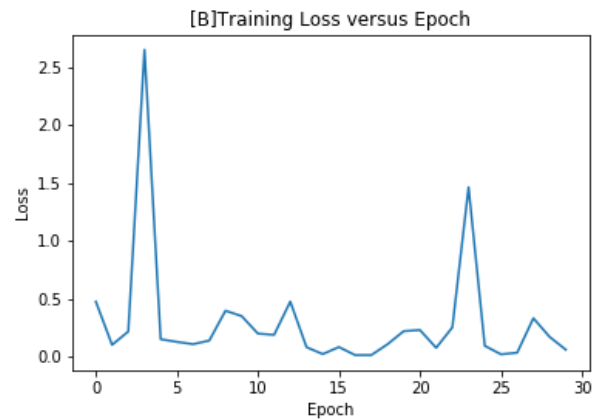
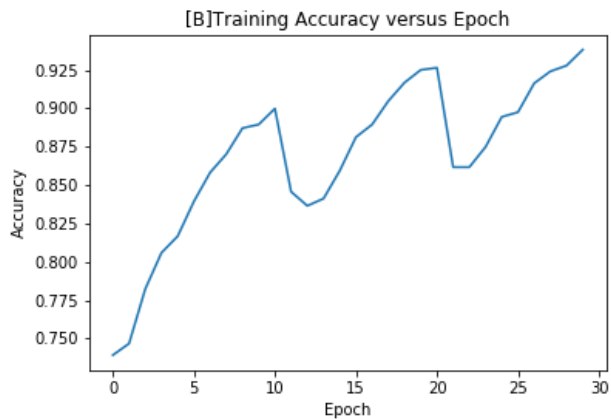
\* Learning rate Scheduler : Cosine Annealing Warm Restarts

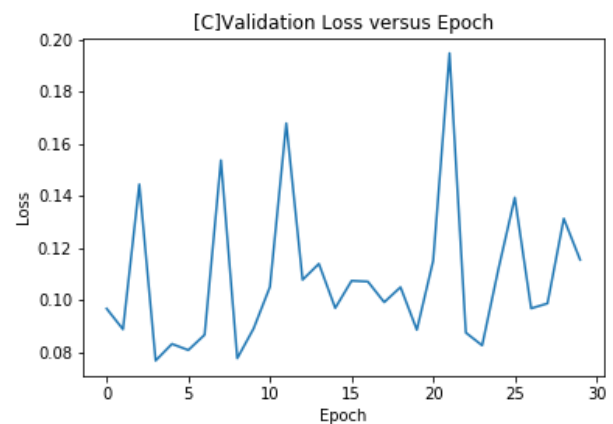
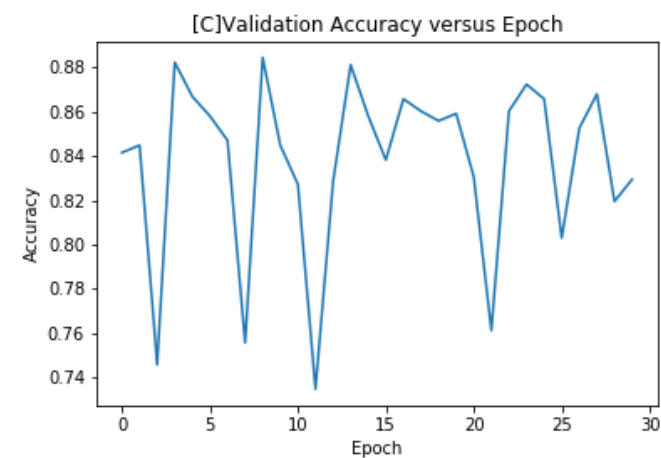
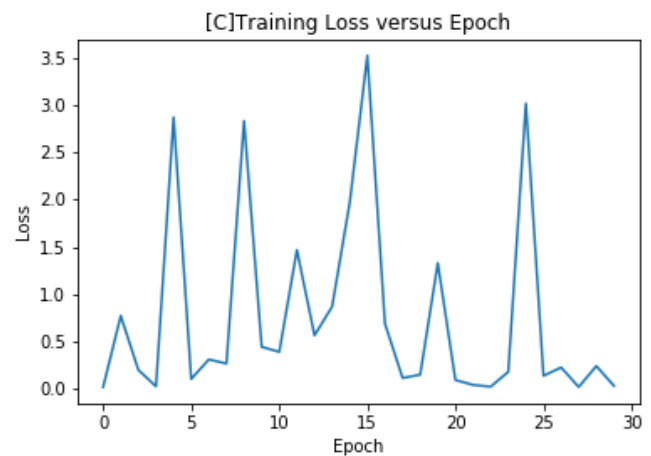
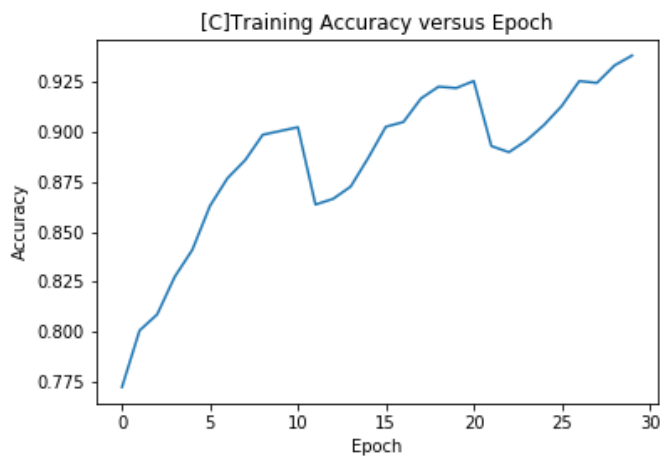
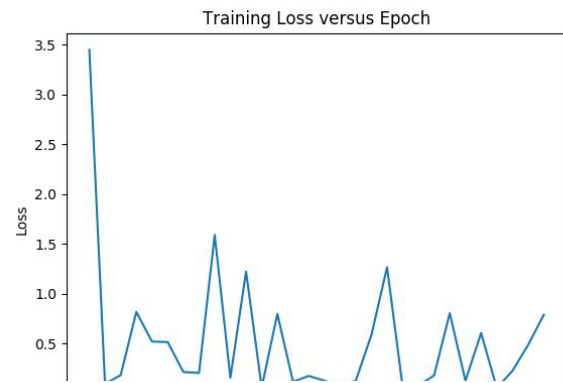
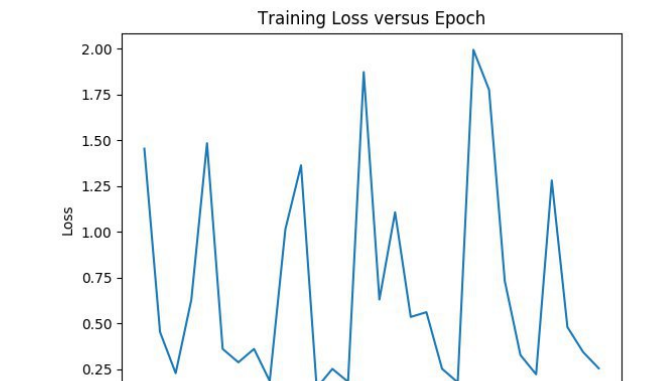
[Best Epoch] Validation Loss: : 0.09365081723996646

[Best Epoch] Validation Accuracy: 0.8305830583058306

Test Loss: 0.09465956211645614

Test Accuracy: 0.8508771929824561





## [C] Resnet18 with loading model weights before training and training only the last trainable layer

\* Learning rate Scheduler : Cosine Annealing Warm Restarts

[Best Epoch] Validation Loss:0.07681695472682663

[Best Epoch] Validation Accuracy:0.8822882288228823

Test Loss:0.07930669003868834

Test Accuracy:0.8804824561403509