Analysis

All results presented here can be replicated by running Test.py and plotting the csv file it creates.

Learning with Restarts

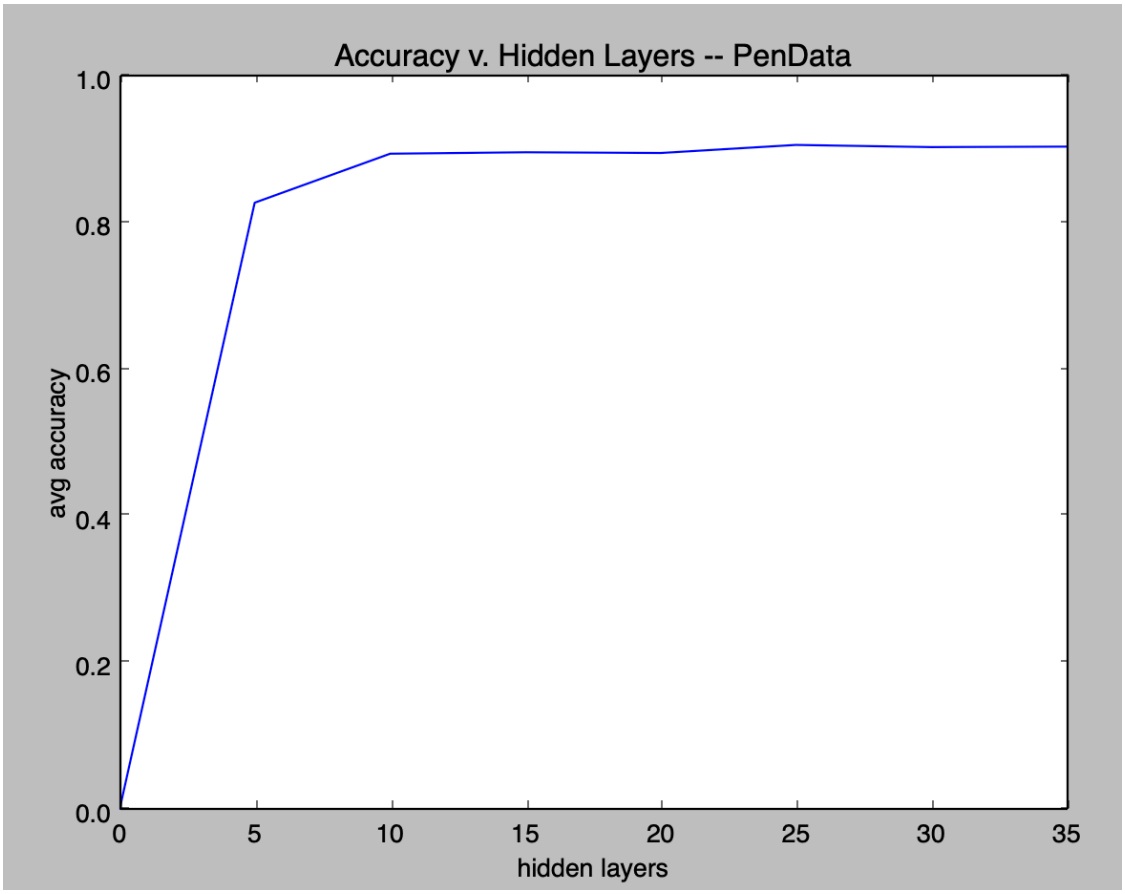
PenData:
max: 0.909948542024
avg: 0.899828473413
std: 0.00846429588277

CarData:
max: 0.99
avg: 0.985
std: 0.00316227766017

Varying the Hidden Layer – Pen Dataset

After analyzing the data, it becomes clear that after 10 hidden layers, the accuracy of the neuro-net plateaus. The addition of further layers only adds more complexity and computational time without meaningful returns.

hidden layers	max	avg	std
0	0	0	0
5	0.84333905	0.8280446	0.01529445
10	0.89708405	0.89479703	0.00228702
15	0.8976558	0.89679817	0.00085763
20	0.90451687	0.8957976	0.00871927
25	0.90937679	0.90680389	0.0025729
30	0.91109205	0.90380217	0.00728988
35	0.90880503	0.90451687	0.00428816



Varying the Hidden Layer – Car Dataset

After analyzing the data, it becomes clear that after 5 hidden layers, the accuracy of the neuro-net plateaus. The addition of further layers only adds more complexity and computational time without meaningful returns.

hidden layers	max	avg	std
0	0.72	0.72	0
5	0.985	0.98	0.005
10	0.99	0.9825	0.0075
15	0.99	0.99	0
20	0.995	0.99	0.005
25	0.995	0.985	0.01
30	0.985	0.985	0
35	0.985	0.985	0
40	0.995	0.99	0.005