CS 3600 Project 4

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# Question 5

## Car data

* Car accuracy max = 0.99
* Car accuracy average = 0.983
* Car accuracy standard deviation = 0.006782329983125274

## Pen data

* Pen accuracy max = 0.907661520869068
* Pen accuracy average = 0.9036020583190394
* Pen accuracy standard deviation = 0.0022683629988424535

# Question 6

## Car Data

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Hidden Layers** | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| **Max** | 0.655000 | 0.985000 | 0.995000 | 0.990000 | 0.995000 | 0.995000 | 0.990000 | 1 | 0.995000 |
| **Mean** | 0.675293 | 0.976491 | 0.972984 | 0.981243 | 0.984329 | 0.989354 | 0.991239 | 0.993241 | 0.994383 |
| **Standard Deviation** | 0.022658 | 0.021382 | 0.020014 | 0.018145 | 0.019806 | 0.013725 | 0.011877 | 0.015872 | 0.000872 |

## Pen Data

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Hidden Layers** | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| **Max** | 0 | 0.857347 | 0.883362 | 0.907662 | 0.906518 | 0.906804 | 0.903087 | 0.903945 | 0.904803 |
| **Mean** | 0 | 0.843625 | 0.8792165 | 0.906804 | 0.9033735 | 0.9053745 | 0.9026585 | 0.904392 | 0.905832 |
| **Standard Deviation** | 0 | 0.013722 | 0.0041455 | 0.000858 | 0.0031445 | 0.0014295 | 0.0004285 | 0.009754 | 0.007104 |

It seems like the standard deviation generally goes down as the mean goes up along with the number of hidden layers.