

Assignment 2

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PROBLEM 1

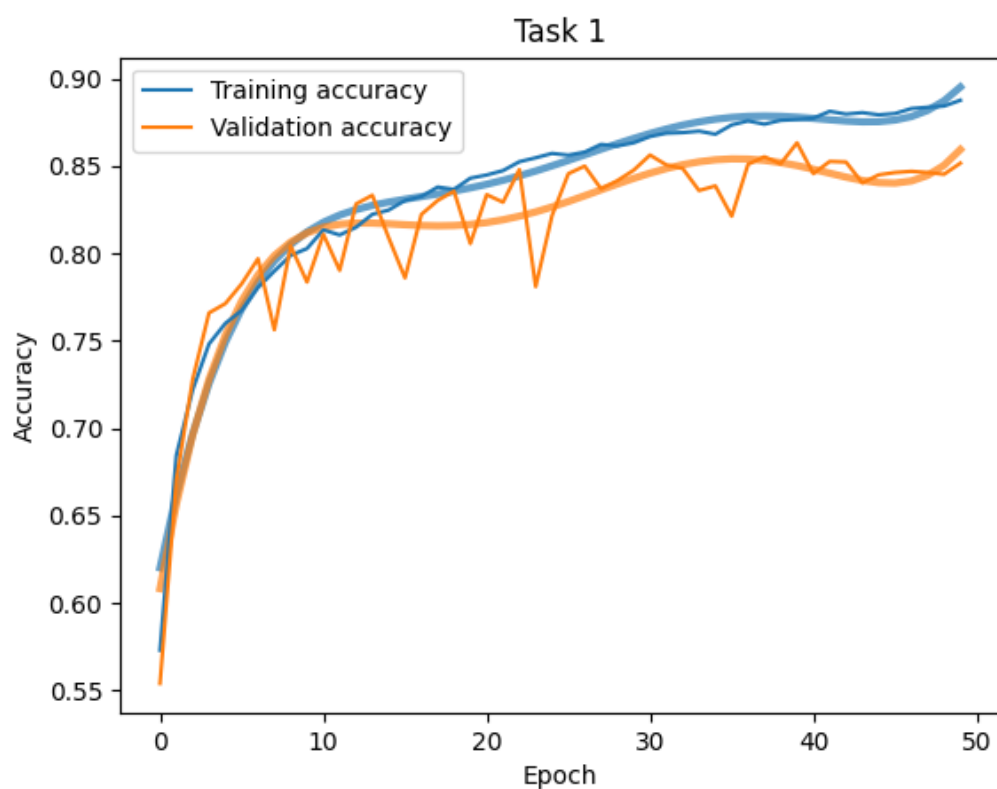


Figure 1: The plot for T1

The results from the model are:

Model	Test loss	Accuracy	MSE
8 neurons - 0.003 LR	0.3564	0.8576	0.0674
16 neurons - 0.01 LR	0.4255	0.8363	0.0798
64 neurons - 0.01 LR	0.4881	0.8113	0.0920
16 neurons - 0.0001 LR	0.3692	0.8536	0.0703
64 neurons - 0.0001 LR	0.3952	0.8416	0.0756

Test loss: 0.3564 - Accuracy: 0.8576 - MSE: 0.0674

The best model is the one with 8 neurons - 0.003 LR, the initial one.

The model is in the file deliverable/nn_task1.h5, while the code used to generate it is in src/create_models.py

PROBLEM 2

Without augmentation

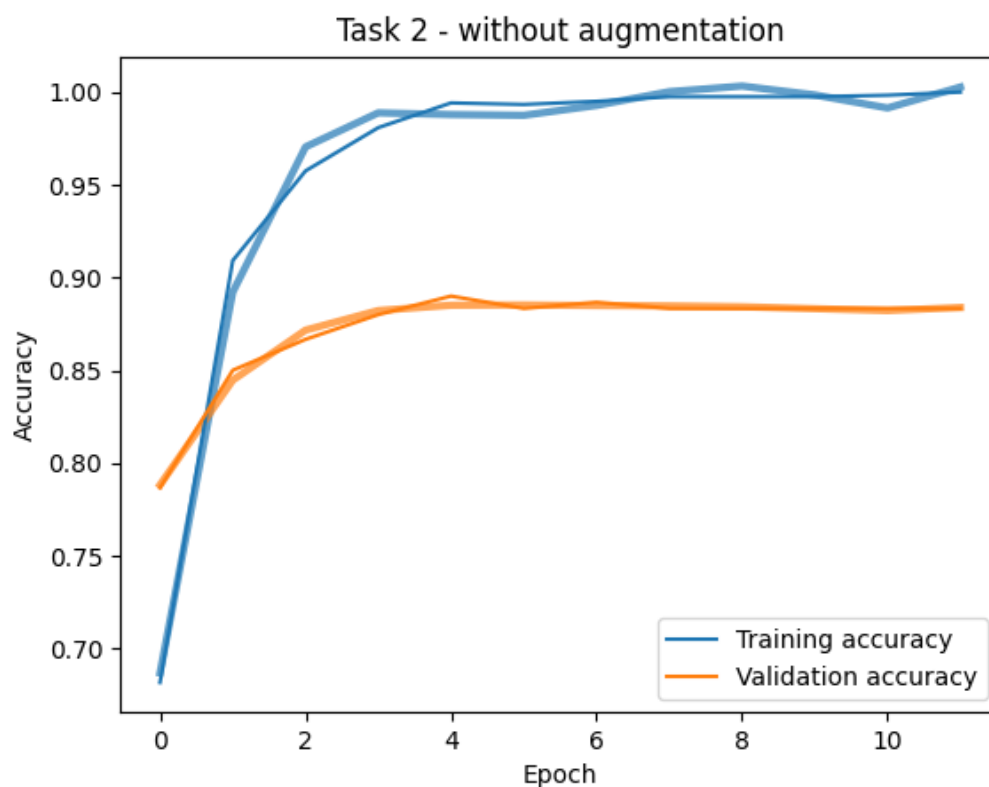


Figure 2: The plot for T2 without augmentation

The results from the model without augmentation are:

Test loss: 0.2259 - Accuracy: 0.9366 - MSE: 0.0319

Test loss: 0.3815 - Accuracy: 0.9300 - MSE: 0.0376 (colab)

The model is in the files `deliverable/nn_task2_no_augmentation.h5` and `deliverable/nn_task2_no_augmentation.pkl`, while the code used to generate it is in `src/create_models.py`

With augmentation

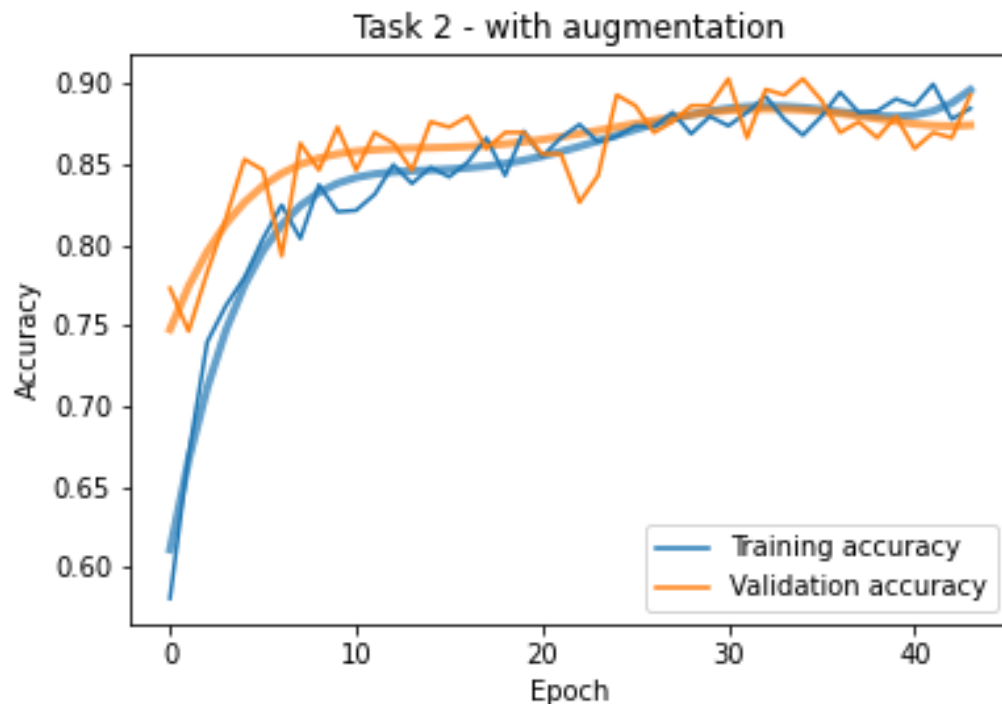


Figure 3: The plot for T2 with augmentation

The results from the model with augmentation are:

Test loss: 0.1591 - Accuracy: 0.9499 - MSE: 0.0300 (colab)

The model is in the files `deliverable/nn_task2_augmentation.h5` and `deliverable/nn_task2_augmentation.pkl`, while the code used to generate it is in `src/create_models.py`

CONCLUSIONS

T1 and first part of T2 ran on my pc, T2 part 2 ran on Colab cause out of VRAM

W tensorflow/core/common_runtime/bfc_allocator.cc:456] Allocator (GPU_0_bfc) ran out of memory trying to allocate 3.59GiB (rounded to 3853516800)requested by op sequential_6/vgg16/block1_conv1/Relu