## Machine Learning Università della Svizzera italiana

# Assignment 2

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# Problem 1

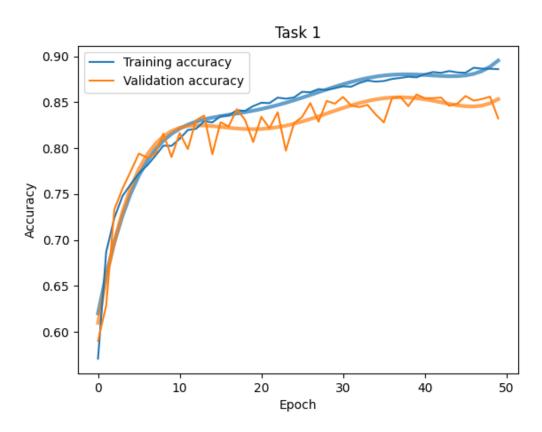


Figure 1: The plot for T1

The results from the model are:

Test loss: 0.3490 - Accuracy: 0.8659 - MSE: 0.0659

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

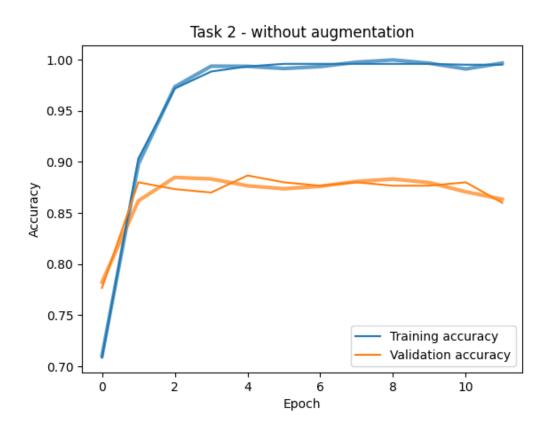


Figure 2: The plot for T2 without augmentation

The results from the model without augmentation are:

Test loss: 0.2334 - Accuracy: 0.9499 - MSE: 0.0268 (my pc) 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

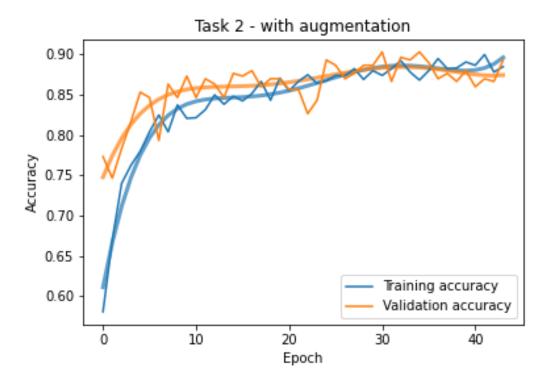


Figure 3: The plot for T2 with augmentation

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

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