CS330 Assignment 1

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January 2022

1 Code

Documented code can be found at this github repository.

2 Results

2.1 K=1, N=2
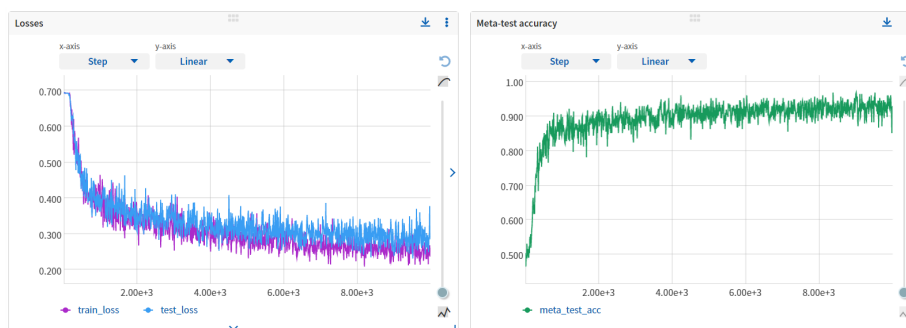
Final meta-test accuracy: 93.4%

Figure 1: MAAN, 2-way, 1-shot

2.2 K=1, N=3

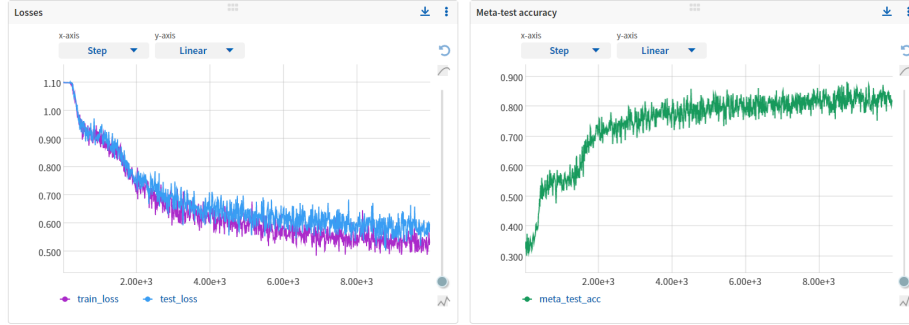Final meta-test accuracy: 81.9%

Figure 2: MAAN, 3-way, 1-shot

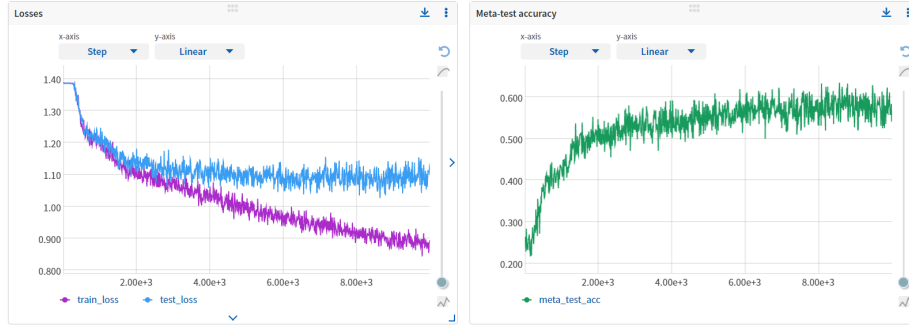## 2.3 K=1, N=4

Final meta-test accuracy: 58.6%

Figure 3: MAAN, 4-way, 1-shot
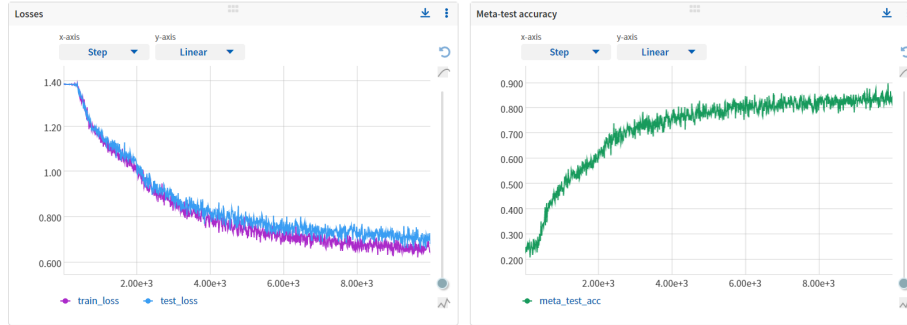
2.4 K=5, N=4

Final meta-test accuracy: 83.6%

Figure 4: MAAN, 4-way, 5-shot

2.5 Using 256 hidden units, K=5, N=4
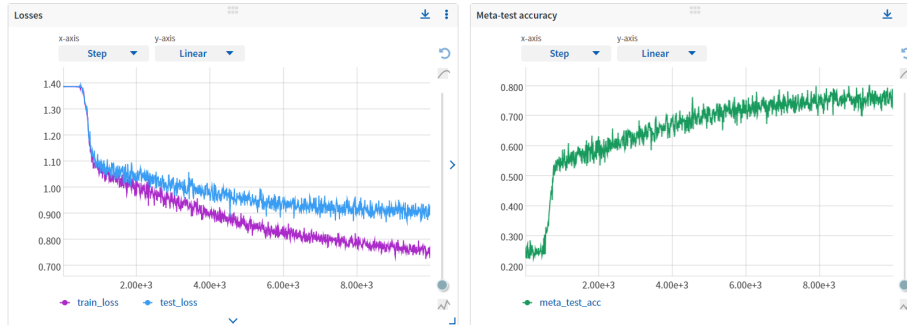
Final meta-test accuracy: 75.5%

Figure 5: MAAN, 4-way, 5-shot, increased model size

2.6 Insights on K, N, and Model Size

Fixing the value of K and increasing N (or increasing the model size) causes the model to meta-overfit where the loss over the support set is low and the loss over the query set is high. Increasing K reduces this overfitting and improves the meta-test accuracy.