

# DEEP LEARNING

## HOMEWORK 2

Group 71 members:

- Luis Jose De Macedo Guevara (95621)
- Vincent Jakl (108529)

### **Contributions of each member**

- Luis Jose De Macedo Guevara (95621):
- Vincent Jakl (108529):

### Question 1

- 1.
- 2.
- 3.
- 4.

### Question 2

- 1.
- 2.
- 3.

### Question 3

- 1.

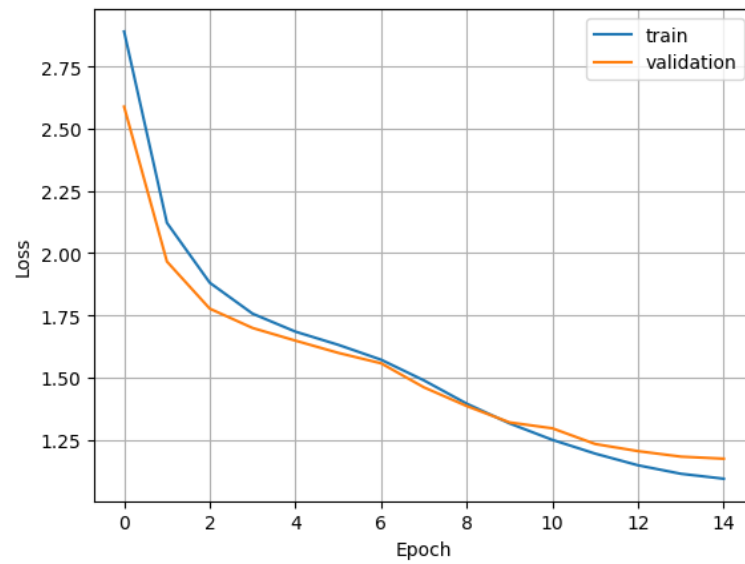
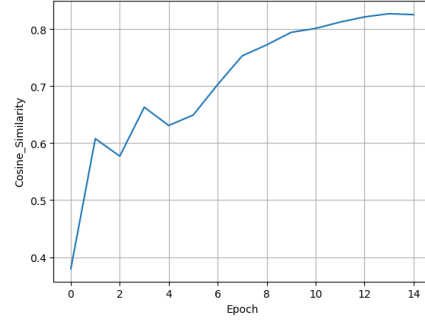
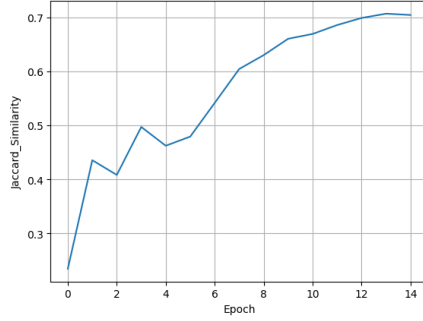
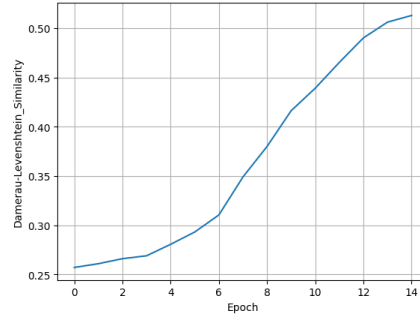


Figure 1: Training and validation loss for the RNN model.



(a) Training Jaccard similarity per epoch (b) Training cosine similarity per epoch



(c) Training Damerau-Levenshtein similarity per epoch

Figure 2: Training similarity metrics per epoch for the RNN model.

The final testing metrics for the RNN were as follows:

- Jaccard similarity: 0.7149
- Cosine similarity: 0.8324
- Damerau-Levenshtein similarity: 0.5087
- Loss: 1.1828

2.

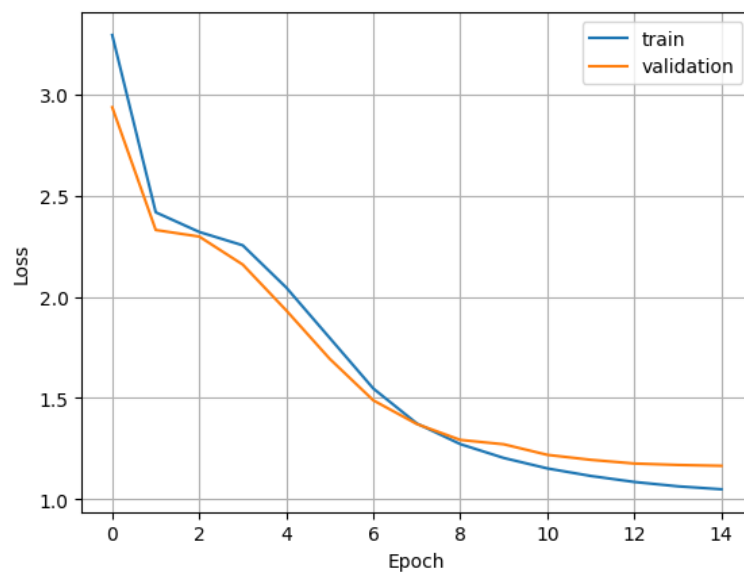
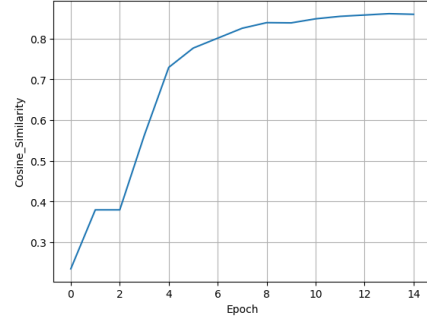
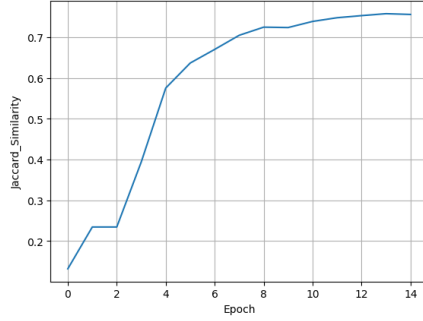
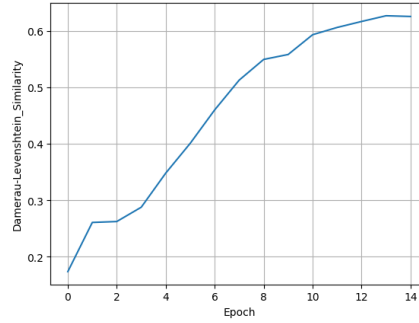


Figure 3: Training and validation loss for the RNN model.



(a) Training Jaccard similarity per epoch (b) Training cosine similarity per epoch



(c) Training Damerau-Levenstein similarity per epoch

Figure 4: Training similarity metrics per epoch for the transformer model.

The final testing metrics for the transformer were as follows:

- Jaccard similarity: 0.7648
- Cosine similarity: 0.8655
- Damerau-Levenstein similarity: 0.6344
- Loss: 1.1596

3.

4.