# Assignment 2 – Window-based Tagging

Daniel Bazar 314708181

Peleg shefi 316523638

## Part 1

### Architecture

* Both tasks implementing the same Network: a MLP with one hidden layer and a tanh activation function
* The network trained with a cross-entropy loss
* We Experimented with several network configurations and chose the best configuration based on the DEV accuracy

### Best parameters

* NER:
  + Hidden layer size: 130
  + Dropout probability: 0.3
  + Batch size: 128
  + Optimizer: Adam (Learning rate: 1e-4)
  + Epochs: 6
* POS:
  + Hidden layer size: 90
  + Dropout probability: 0.2
  + Batch size: 64
  + Optimizer: Adam (Learning rate: 5e-05)
  + Epochs: 8

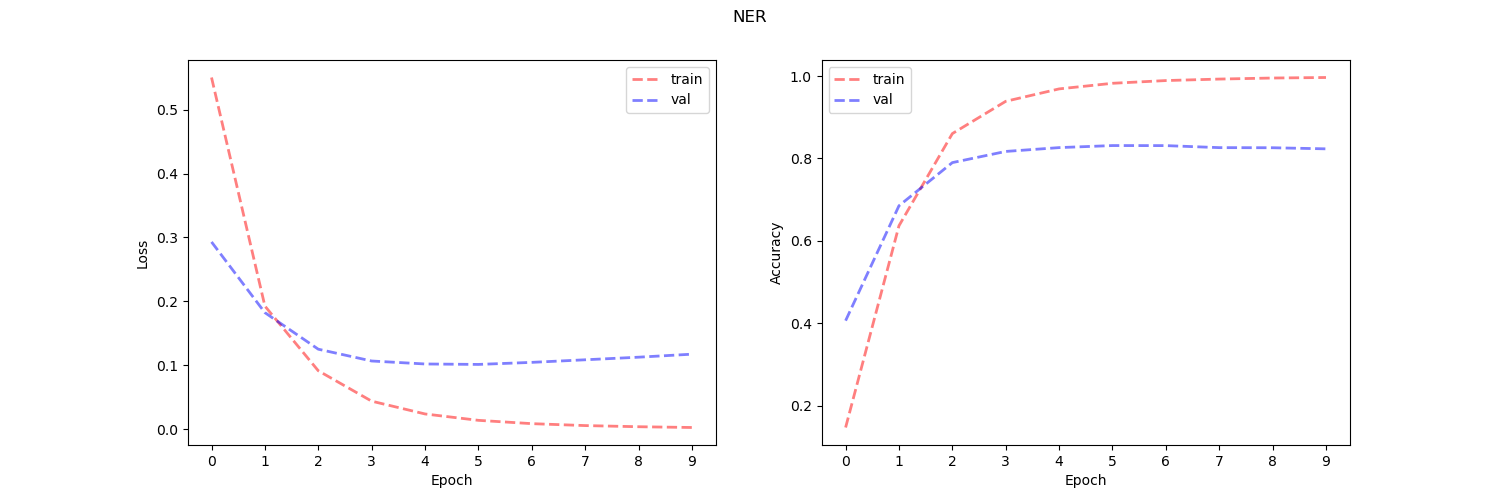
### Considerations

* We handle words that appear in the train set and not in the dev set by assigning them the UNK token
* We padded the sentences with SOS (start of string) and EOS (end of string) at the beginning and end of the sentence

### Results

* NER:
  + Loss validation: 0.101
  + Accuracy validation: 83.13%
* POS:
  + Loss validation: 0.135
  + Accuracy: 95.84%

### Graphs



A picture containing diagram, line, plot, text

Description automatically generated