

Language Modelling - Lab 4

Marco Prosperi (257857)

University of Trento

marco.prosperi@studenti.unitn.it

1. Introduction (approx. 100 words)

- a summary of what you have done

For the first task of the project the goal was to enhance the performance of the baseline RNN by adding incrementally some features.

2. Implementation details (max approx. 200-300 words)

Do not explain the backbone deep neural network (e.g. RNN or BERT). Instead, focus on what you did on top of it. **Add references if you take inspiration from the code of others**

3. Results

Add tables and explain how you evaluated your model. Tables and images of plots or confusion matrices do not count in the page limit.

Model	PPL	LR	Hidden	Emb
RNN	173.22	0.1	100	100
LSTM	137.31	2	300	300
LSTM + Var Dropout	123.14	2	300	300
LSTM + Var Dropout + AdamW	109.43	0.0001	400	400

Table 1: *Perplexity and hyperparameters of the models.*

4. References

- [1] L. R. Rabiner, "A tutorial on hidden Markov models and selected applications in speech recognition," *Proceedings of the IEEE*, vol. 77, no. 2, pp. 257–286, Feb. 1989.

[1]