

# Understanding LSTM

Profilierungsmodul II

Due: Monday December 2, 2019 23:59

The next session will be organized as a discussion on LSTM networks, please be prepared and read the suggested material. In order to get 5 points on this exercise sheet, submit your written homework individually (not in groups) to [profilmodul1920@cis.lmu.de](mailto:profilmodul1920@cis.lmu.de).

- **Reading:** Foundation of the discussion session will be Chapter 10 of the Deep Learning Book (<http://www.deeplearningbook.org/contents/rnn.html>). If you do not want to read the whole chapter, you can focus on the following parts (18 pages total):
  - Foundations: Beginning of Ch. 10 to Ch. 10.2.1 (inclusive)
  - Long-term dependencies: Ch. 10.7
  - Gated RNN's: Ch. 10.10

Then, have a look at this tutorial on LSTMs:

<http://colah.github.io/posts/2015-08-Understanding-LSTMs/>

- **Written assignment:** Summarize the main ideas underlying LSTMs in your own words ( $\frac{1}{2}$  to 1 page). What are the most important building blocks? What are the main interactions? What are justifications and intuitions behind those choices? What are questions that are still unclear to you?