



PATC Practical Deep Learning @ CSC

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Markus Koskela, Mats Sjöberg

markus.koskela@csc.fi mats.sjoberg@csc.fi

This document and all the lecture slides can be found at <https://tinyurl.com/yvej6rxl>.

Other materials (and link to Gitter) are at GitHub: <https://github.com/csc-training/intro-to-dl/>.

Detailed program (all times are Finnish time, UTC+2)

Day 1: Notebooks

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|-------------|---|
| 9:00-10:30 | Lecture 1: Introduction to deep learning (Markus) |
| 10:30-10:45 | Break |
| 10:45-11:00 | Exercise 1: Introduction to Notebooks, Keras fundamentals
Jupyter notebook: 01-tf2-test-setup.ipynb |
| 11:00-11:30 | Lecture 2: Multi-layer perceptron networks (Mats) |
| 11:30-12:00 | Exercise 2: Classification with MLPs
Jupyter notebook: 02-tf2-mnist-mlp.ipynb |
| 12:00-13:00 | Lunch |
| 13:00-14:00 | Lecture 3: Image data, convolutional neural networks (Mats) |
| 14:00-14:30 | Exercise 3: Image classification with CNNs
Jupyter notebook: 03-tf2-mnist-cnn.ipynb |
| 14:30-14:45 | Break |
| 14:45-15:30 | Lecture 4: Text data, embeddings, recurrent neural networks (Markus) |
| 15:30-16:00 | Exercise 4: Text sentiment classification with RNNs
Jupyter notebooks: 04-tf2-imdb-rnn.ipynb |

Day 2: Puhti-AI

9:00-10:15	Lecture 5: Deep learning frameworks, GPUs and batch jobs (Mats)
10:15-10:30	Break
10:30-12:00	Exercise 5: Image classification: dogs vs. cats; traffic signs
12:00-13:00	Lunch
13:00-13:30	Lecture 6: Attention (Markus)
13:30-14:15	Exercise 6: Text categorization: 20 newsgroups
14:15-14:30	Break
14:30-15:15	Lecture 7: Cloud, GPU utilization, multi-GPU (Markus)
15:15-16:00	Exercise 7: Using multiple GPUs

Exercise instructions for Day 1

See <https://github.com/csc-training/intro-to-dl/tree/master/day1>.

Exercise instructions for Day 2

See <https://github.com/csc-training/intro-to-dl/tree/master/day2>.