Course Logistics

Jindřich Helcl, Jindřich Libovický

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Goals of the Course

1. Make you able to read the newest MT papers

2. Give you some intuition on how the models behave
What We Expect You to Know

• Basics of deep learning
  • basic neural architectures
  • training by backpropagation

• Be familiar with machine translation
  • data we use and how do we get them
  • MT evaluation
  • main problems of MT and why they are difficult

Enrolling NPFL087 Statistical Machine Translation and NPFL114 Deep Learning is recommended.
First Part: Lectures

1. Discussion on a reading assignment (20 minutes)
2. Lecture (70 minutes)

Preliminary Syllabus

• Introductory notes on deep learning and machine translation
• Neural architectures for NLP
• Sequence-to-sequence learning with attention mechanism using RNNs
• Sequence-to-sequence learning using self-attention networks
• Dealing with limited vocabulary (character-based methods, sub-word units)
• Algorithmic tricks to improve model performance (beam search, ensembling)

The topics may change based on your interests.
Every student will:

- Present a paper (or a group of papers) to the others
- Prepare interesting questions to kick-off the discussion

Papers will cover recent research topics including: *unsupervised translation, interpretability, alternative decoding schemes* *(non-autoregressive NMT, Levenshtein Transformers)*.
To pass the course, you need to:

- read the papers assigned for the seminar and submit an answer to a question for each paper before the seminar (via a Google Form),
- present a paper to your fellow students,
- write a test at the end of the semester.

The seminar is an *optional* course, awarded by 3 *credits*. 
• The course materials & reading questions will be available on the course webpage.

• If you have questions, drop us a line:
  • Jindřich Helcl (helcl --at-- ufal.mff.cuni.cz)
  • Jindřich Libovický (libovicky --at-- ufal.mff.cuni.cz)