Papers mentioned in week 5

Here's a list of papers mentioned in week 5 slides.

Video 1:

- A. Bhargava, A. Celikyilmaz, D. Hakkani-Tur, and R. Sarikaya. **EASY CONTEXTUAL INTENT PREDICTION AND SLOT DETECTION** (2013).
http://www.cs.toronto.edu/~aditya/publications/contextual.pdf
- K. Scheffler and S. Young. **Simulation of human-machine dialogues** (1999).
http://mi.eng.cam.ac.uk/~sjy/papers/scyo99.ps.gz

Video 2:

- Wenpeng Yin, Katharina Kann, Mo Yu, Hinrich Schütze. **Comparative Study of CNN and RNN for Natural Language Processing** (2017). https://arxiv.org/pdf/1702.01923.pdf
- Yann N. Dauphin, Angela Fan, Michael Auli, David Grangier. **Language Modeling with Gated Convolutional Networks** (2017). https://arxiv.org/pdf/1612.08083.pdf
- Jonas Gehring, Michael Auli, David Grangier, Denis Yarats, Yann N. Dauphin. **Convolutional Sequence to Sequence Learning** (2017). https://arxiv.org/pdf/1705.03122.pdf
- Bing Liu, Ian Lane. **Attention-Based Recurrent Neural Network Models for Joint Intent Detection and Slot Filling** (2016). https://www.isca-speech.org/archive/Interspeech_2016/pdfs/1352.PDF
- Gokhan Tur, Dilek Hakkani-Tur, Larry Heck. **WHAT IS LEFT TO BE UNDERSTOOD IN ATIS?** (2010). https://www.microsoft.com/en-us/research/wp-content/uploads/2010/12/SLT10.pdf

Video 3:

- Yun-Nung Chen, Dilek Hakkani-Tur, Gokhan Tur, Jianfeng Gao, and Li Deng. **End-to-End Memory Networks with Knowledge Carryover for Multi-Turn Spoken Language Understanding** (2016). https://www.microsoft.com/en-us/research/wp-content/uploads/2016/06/IS16_ContextualSLU.pdf

Video 4:

- Jason P.C. Chiu, Eric Nichols. **Named Entity Recognition with Bidirectional LSTM-CNNs** (2016). https://arxiv.org/pdf/1511.08308v4.pdf

Video 5:

- Xiujun Li, Yun-Nung Chen, Lihong Li, Jianfeng Gao, Asli Celikyilmaz. **Investigation of Language Understanding Impact for Reinforcement Learning Based Dialogue Systems** (2017). https://arxiv.org/pdf/1703.07055.pdf
- Matthew Henderson, Blaise Thomson and Jason Williams. **Dialog State Tracking Challenge 2 & 3** (2013). http://camdial.org/~mh521/dstc/downloads/handbook.pdf
- Nikola Mrksic, Diarmuid O Seaghdha, Tsung-Hsien Wen, Blaise Thomson, Steve Young. **Neural Belief Tracker: Data-Driven Dialogue State Tracking** (2017). https://arxiv.org/pdf/1606.03777.pdf
- Layla El Asri, et al. **FRAMES: A CORPUS FOR ADDING MEMORY TOGOAL-ORIENTED DIALOGUE SYSTEMS** (2017). https://arxiv.org/pdf/1704.00057.pdf

Video 6:

- Xuesong Yang, Yun-Nung Chen, Dilek Hakkani-Tur, Paul Crook, Xiujun Li, Jianfeng Gao, Li Deng. **END-TO-END JOINT LEARNING OF NATURAL LANGUAGE UNDERSTANDING AND DIALOGUE MANAGER** (2017). https://arxiv.org/pdf/1612.00913.pdf

Keep up-to-date with NLP research

Congratulations for finishing with the lectures in our course!

NLP is a huge and rapidly emerging area. So to have an up-to-date understanding of its advances one should always keep track of what is going. In these reading material we provide some links for you that give a nice **overview of NLP trends as for the end of 2017**.

First, it is always a good idea to check out highlights from main conferences. There are nicely summarized trends of ACL-2017: part 1, part 2. Also, some highlights from EMNLP-2017 are available here. Second, it would be a good idea to monitor some blogs, e.g. Sebastian Ruder has nice posts about DL in NLP, optimization trends, word embeddings, and many others.

One of still active topics is Thought Vectors and how one can interpret directions in the hidden space. E.g. you might be interested to check out this post. However, it's getting more clear that compressing all the input into one vector is often not enough and one might make nice things with attention and linguistic information. Some more tips about attention here.

Finally, this is another nice overview of 2017 trends in NLP research - advances in unsupervised machine translation seem especially exciting!

Not surprisingly, you will notice that each new year introduces new SOTA models and NLP techniques. Just to mention a few:

- Transformers are everywhere, [this blogpost](#) might be a good place to start
- New representation learning techniques (BERT, ELMO, etc).: [blogpost](#)
- Big pre-trained LM models (Transformer-XL, GPT-2, etc): [blogpost](#)

To conclude, we would like to say **thank you** for taking our course and wish best of luck in your future NLP projects!