CS 341 Natural Language Processing
Literature Review

Professor Heather Pon-Barry

Due Wednesday April 1 *11:00 AM*

Assignment Overview

The goal of this assignment is two-fold. First, it gives you practice reading scholarly articles and concisely communicating the core ideas. Second, it gives you an opportunity to learn about research in the field of natural language processing.

For the assignment, you will write a concise review of two related articles. You will first choose a primary research article; this article should be related to the topic you are exploring for your final project. After reading this primary article, choose a secondary article that is cited by your primary article and read this article as well. You should select one that will help contextualize the main article.

Guidelines for writing a literature review: Write a concise review of the two articles you read. Your review should be roughly one page long single spaced (no more than two pages), including full references. Do not just just summarize the contents of the articles. You should address, for both articles, the following questions:

- What is the problem addressed?

- What is challenging about this problem?

- How is this work similar or different from the existing work in the field?

- What are the findings?

- What is the main contribution of the article?

- What aspects of this work relate to concepts that we have discussed in class?

- Do you see any interesting extensions to this work?

I will plan to share your literature reviews with your peers and with future classes so they may learn about the articles you read. If you prefer to not share your review, you may opt out.

How to find speech and NLP scholarly articles

Suggested speech and NLP publications and conference proceedings to look at are:

- Transactions of the ACL (`http://www.transacl.org/`)

- Interspeech (`http://www.isca-speech.org/iscaweb/index.php/archive/online-archive`)

- SIGDial, NAACL, and ACL (accessible at `http://www.aclweb.org/anthology/`)

You can search for articles on Google Scholar and through the MHC library portal. I encourage you to find an article that is related to your final project. Here are some suggestions that may help you get started in exploring articles. You are welcome to select an article that's not on this list!

1. Artzi, Yoav, and Luke Zettlemoyer. Weakly supervised learning of semantic parsers for mapping instructions to actions. Transactions of the ACL 1: 49–62. 2013.

2. Bamman, D., O'Connor, B., & Smith, N. A. Learning Latent Personas of Film Characters. ACL 2013.

3. Bamman, D., Underwood, T., & Smith, N. A. A Bayesian mixed effects model of literary character. ACL 2014.

4. Boyer, Kristy, Joseph Grafsgaard, Eun Young Ha, Robert Phillips, and James Lester. An Affect-Enriched Dialogue Act Classification Model for Task-Oriented Dialogue. ACL 2011.

5. Chen, S. F., & Goodman, J. An empirical study of smoothing techniques for language modeling. Computer Speech and Language, 13(4), 359–393. 1999.

6. Danescu-Niculescu-Mizil, C., Sudhof, M., Jurafsky, D., Leskovec, J., & Potts, C. A computational approach to politeness with application to social factors. ACL 2013.

7. Deoras, A., R Sarikaya, G Tur, DZ Hakkani-Tur. Joint Decoding for Speech Recognition and Semantic Tagging. Interspeech 2012.

8. Doyle, Gabriel and Levy, Roger. Combining multiple information types in Bayesian word segmentation. NAACL 2013.

9. Elson, David. DramaBank: Annotating Agency in Narrative Discourse. LREC 2012.

10. Elsner, Micha and Eugene Charniak. Disentangling Chat with Local Coherence Models. ACL 2011.

11. Garrette, D., Mielens, J., & Baldridge, J. Real-World Semi-Supervised Learning of POS-Taggers for Low-Resource Languages. ACL 2013.

12. Hinton, G., Deng, L., Yu, D., Dahl, G. E., Mohamed, A. R., Jaitly, N., Senior, A., Vanhoucke, V., Nguyen, P., Sainath, T.N., & Kingsbury, B. (2012). Deep neural networks for acoustic modeling in speech recognition: The shared views of four research groups. Signal Processing Magazine, IEEE, 29(6), 82-97.

13. Kamper, Herman, Aren Jansen, Simon King, and Sharon Goldwater. Unsupervised lexical clustering of speech segments using fixed-dimensional acoustic embeddings. In Proceedings of the IEEE Spoken Language Technology Workshop, 2014.

14. Knight, K., Megyesi, B. and Schaefer, C. The Copiale Cipher presented as part of invited talk at ACL Workshop on Building and Using Comparable Corpora. 2011. `http://stp.lingfil.uu.se/~bea/copiale/`

15. Liang, Percy, Michael Jordan and Dan Klein. Learning Dependency-Based Compositional Semantics. ACL 2011.

16. Litman, D., Friedberg, H., & Forbes-Riley, K. Prosodic Cues to Disengagement and Uncertainty in Physics Tutorial Dialogues. Interspeech 2012.

17. Livescu, K., E. Fosler-Lussier, and F. Metze. Sub-word Modeling for Automatic Speech Recognition. Signal Processing Magazine, 29:6, pp 44-57, Nov. 2012.

18. Lubold, N. and Pon-Barry, H. A Comparison of Acoustic-Prosodic Entrainment in Face-to-face and Remote Collaborative Learning Dialogues. In Proceedings of the IEEE Spoken Language Technology Workshop, 2014.

19. Mairesse, F., M. Walker, M. Mehl, and R. Moore. 2007. Using linguistic cues for the automatic recognition of personality in conversation and text. Journal of Artificial Intelligence Research 30, 457–500.

20. Minh, T. L., Frank, M. C., & Johnson, M. Parsing entire discourses as very long strings: Capturing topic continuity in grounded language learning. Transactions of the ACL, 2013.

21. Pate, John K., and Sharon Goldwater. Unsupervised syntactic chunking with acoustic cues: Computational models for prosodic bootstrapping. In Proceedings of the 2nd Workshop on Cognitive Modeling and Computational Linguistics, 2011.

22. Perez-Rosas, V., Mihalcea, R., & Morency, L. P. Utterance-Level Multimodal Sentiment Analysis. ACL 2013.

23. Ranganath, Rajesh, Dan Jurafsky, and Daniel A. McFarland. Detecting friendly, flirtatious, awkward, and assertive speech in speed-dates. Computer Speech and Language 27:1, 89-115. 2013.

24. Wang, W. Y., Bohus, D., Kamar, E., & Horvitz, E. Crowdsourcing the acquisition of natural language corpora: Methods and observations. SLT Workshop, 2012.

25. Xia, Z., Levitan, R., & Hirschberg, J. B. Prosodic entrainment in Mandarin and English: A cross-linguistic comparison. Speech Prosody 2014.