Attics, guesswork and clay. Sleuthing your way into Biomedical Natural Language Processing

Seth Russell, MS

This presentation, handout, and some example code is available at https://github.com/magic-lantern/coprh-nlp-2021

ACM Code of Ethics and Professional Conduct

Association for Computing Machinery, 2018

"Computing professionals' actions change the world. To act responsibly, they should reflect upon the wider impacts of their work, consistently supporting the public good. The ACM Code of Ethics and Professional Conduct ("the Code") expresses the conscience of the profession..."

Natural Language Processing is comprised of areas such as:

- Document Retrieval
- Information Extraction
- Knowledge Representation
- Word/Concept/Abbreviation disambiguation
- Automated reasoning
- Classification
- Sentiment Analysis

Common Natural Language Processing techniques

- Regular expressions
- Syntactical Analysis
- Stemming
- Lemmatization
- Stop word removal
- Word to vector representations
- Deep Learning & Language Models

Additional Resources

- "Clinical Natural Language Processing" Laura K. Wiley, PhD Asst Prof @ CU Anschutz <u>https://www.coursera.org/learn/clinical-natural-language-processing</u>
- "Natural Language Processing Specialization" <u>https://www.deeplearning.ai/program/natural-language-processing-specialization/</u>
- "A Code-First Introduction to Natural Language Processing" <u>https://www.fast.ai/2019/07/08/fastai-nlp/</u>
- <u>https://towardsdatascience.com/introduction-to-clinical-natural-language-processing-predicting-hospital-readmission-with-1736d52bc709</u>
- Medical Transcription Classification: <u>https://www.kaggle.com/ritheshsreenivasan/clinical-text-classification</u>





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