Keynote Presentation

Developing Resources to Assist in Development and Application of NLP to Clinical Texts

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1   Bio

After studying linguistics, Dr. Chapman received her PhD from the University of Utah in Medical Informatics with a research focus in natural language processing (NLP). She spent ten years at the University of Pittsburgh and moved to the University of California, San Diego in 2010. Dr. Chapman's work has mainly addressed extraction of information from clinical reports, including identifying evidence of acute bacterial pneumonia from chest radiography reports and evidence of conditions relevant to detecting disease outbreaks from emergency department reports. She has developed an information extraction system called Topaz that maps text to concepts from a user's knowledge base and uses the ConText algorithm to assign attribute values for negation, experiencer, and historicity. Dr. Chapman led the American Medical Informatics Association NLP Working Group from 2008 until 2012 and is collaborating on efforts to develop shared conventions for NLP. She is working on several collaborative grants creating visualization tools for NLP output and developing infrastructure for NLP development and application.

2   Abstract

There are many barriers to developing NLP algorithms for clinical text and to applying NLP to clinical tasks. At UCSD, we are addressing some of the barriers through development of shared resources to assist developers in annotating text and evaluating NLP annotations. We are also developing shared resources to assist potential users of NLP in developing knowledge bases for particular clinical problems, in customizing NLP applications without NLP expertise, and in visualizing the output of NLP annotations for clinical research and decision support. The resources are being hosted on the iDASH cloud, which is meant for integrating Data for Anonymization, Analysis, and SHaring.