Analyzing Human Language

Noah Smith
Finmeccanica Associate Professor, Computer Science

CURRENT RESEARCH

Using computer algorithms to understand and process natural languages

Dr. Noah Smith's fascination with computers began at an early age, but his first attempt to write code dealing with language stemmed from his seventh grade homework. Intrigued by the regularities and irregularities of French, Smith wrote a program that would conjugate the verbs for him. This early excitement about computer code and what makes human languages easy or difficult to learn has grown into a successful career that merges Linguistics and Computer Science. Early research opportunities as an undergraduate student revealed the applications of this connection, providing hands-on opportunities for Smith to explore and think like a scientist.

Today, Smith's research program at Carnegie Mellon University develops algorithms that process language data in order to extract information and make useful inferences. Vast amounts of text are produced every day as a by-product of every human pursuit: science, finance, government, and social communication. The ability for computers to "read" this data and offer human-interpretable analysis of what is going on in the world depends critically on natural language processing.

- Though we all use natural language every day, the seemingly simple task of decoding a piece of text to find the meaning that its author intended is a challenging one. Smith considers this problem from different angles, such as: parsing sentences into simpler syntactic representations (not unlike sentence diagramming (subject/predicate) that many of us were required to do by hand in grade school), interpreting those sentences based on various semantic theories, and identifying the choices an author has made in framing the matters being discussed. This research builds on...

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AFFILIATION

Carnegie Mellon University

EDUCATION

- Ph.D., in Computer Science, 2006 , Johns Hopkins University
- M.S., in Computer Science. 2004 , Johns Hopkins University
- B.S., with High Honors in Computer Science, 2001 , University of Maryland
- B.A., with Honors in Lingusitics, 2001 , University of Maryland

AWARDS

- 2013 Five-year Retrospective Best Paper
- 2011 National Science Foundation CAREER Award
- 2010 SAS/International Institute of Forecasters Grant
- 2009 Best Conference Paper
- 2008 Best Student Paper
- and 1 more...

RESEARCH AREAS

Linguistics, Humanities, Sociology, IOT, Devices, Data

FUNDING REQUEST

Alumni from Dr. Smith's diverse group of enthusiastic graduate students have gone on to join the research teams at some of the top technology firms and to teach at prestigious universities. Your contributions will allow Dr. Smith to continue to train an energetic team of scholars who effectively cross disciplinary boundaries and who will continue to create computing technologies that, by making sense of human language, enable humans to make better sense of the world of information we now inhabit.