

Avril Kenney

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Employment

Luminoso Technologies Inc., Cambridge, MA

July 2012 – June 2016

Creating, implementing, and analyzing algorithms for text analytics, and improving design of analytics pipeline and API. Assessed and tuned algorithms for vector-based classification and clustering. Implemented intuitive metric for importance of terms in a data set. Built system for account creation, automatic billing, and usage tracking. Transitioned API from custom authentication scheme to simpler API-key-based scheme.

Research experience

Modeling quantification in language, Computational Cognitive Science group, MIT

February 2011 – June 2012

Built a computational model to predict patterns in meanings and usage of quantificational words in languages.

Modeling evolution of word meanings, Santa Fe Institute

June – August 2010

Designed and coded an agent-based model of how word meanings can change over time. Included a changing population of speakers, referential uncertainty, and a continuous space of meanings. Made correct predictions about synonymy, polysemy, and optimal partitioning of meaning space.

Computational modeling of pragmatics, Tedlab, Brain and Cognitive Sciences, MIT

December 2008 – June 2010

Modeling contextual informativeness as a factor in people's production and learning of words. Designed experiments, tested over 150 children, and coded web-based experiments for use on Mechanical Turk.

Infant social cognition, SaxeLab, Brain and Cognitive Sciences, MIT

May – December 2008

Used eye-tracking to study how infants of different ages look at socially relevant features in realistic scenes. Recruited and tested infants. Wrote MATLAB code for data visualization and analysis.

Language acquisition, Wexler Lab, Brain and Cognitive Sciences, MIT

January – May 2008

Studied children's understanding of the distinction between epistemic and deontic use of modal verbs, and the possible relationship to theory of mind. Designed stimuli (stories and videos) and conducted experiment with preschool children.

Teaching experience

Teaching assistant, Artificial Intelligence (6.034), MIT

Fall 2011, Spring 2012

Taught two recitation sections per week. Wrote and graded quiz problems and projects. Held office hours and helped students with homework and quiz preparation.

Teaching assistant, Lab in Higher-Level Cognition (9.61), MIT

Spring 2011

Guided conception, design, execution, and writing-up of publishable-quality student projects. Led student discussions and gave several lectures. Managed course finances and recordkeeping.

Teacher, Educational Studies Program, MIT

2007 – Present

Created and taught introductory courses to classes of 5-30 middle- and high-school students. Topics include linguistics, grammar, psychology, and matrix algebra.

Teaching assistant, Partners Program, College Preparatory School, Oakland, CA

Summers 2005 – 2007

Worked with talented minority students from public middle schools. Provided individualized instruction to groups of 3-5 students in math, science, writing, and literature classes. Created new spreadsheet system for tracking attendance, matriculation, and budget.

Education

Massachusetts Institute of Technology

M.Eng., Computer Science and Engineering

June 2012

S.B., Brain and Cognitive Sciences

June 2011

S.B., Computer Science and Engineering

June 2011

Skills

Relevant coursework: Artificial Intelligence, Machine Learning, Algorithms, Computational Cognitive Science, Natural Language Processing, Software Construction, Computer System Engineering, Theory of Computation.

Languages: Python, MATLAB, English. Some experience in C/C++, Java, R, NetLogo, ActionScript, CoffeeScript, Spanish, Latin.

Publications and Presentations

Frank, M. C., Kenney, A., Goodman, N. D., Tenenbaum, J. B., Torralba, A., and Oliva, A. (2010). Predicting object and scene descriptions with an information-theoretic model of pragmatics. Tenth Annual Meeting of the Vision Science Society.

Modyanova, N., Agoos, C., Kenney, A., Holt, A., Echelbarger, M., Wexler, K. (2009). Children's Interpretations of Modal Verbs. *Proceedings of GALA 2009*. Cambridge Scholars Press.

Awards and Honors

Phi Beta Kappa, 2011

Hans-Lukas Teuber Award for Outstanding Academics (MIT BCS), 2011

Honorable Mention for Outstanding Academic Record (MIT BCS), 2009, 2010

Honorable Mention for Outstanding Research (MIT BCS), 2009

MIT Club of Northern California Alumna Scholarship, 2007-2008

National Merit Finalist, 2007

Cum Laude Society, 2006