Jesse Mu

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Education

2018– **Ph.D. in Computer Science, Stanford University**
– Advisor: Noah Goodman

2017–2018 **MPhil in Advanced Computer Science**, *with distinction*, **University of Cambridge**
– Advisors: Ekaterina Shutova, Helen Yannakoudakis
– Overall mark 1034/1200, ranked 2/*55*

2013–2017 **B.A. in Computer Science**, *summa cum laude*, **Boston College**
– Advisors: Joshua K. Hartshorne, Timothy J. O'Donnell

Experience

2019 **Consultant, Codecademy**

2017 **Applied Scientist Intern, Alexa AI, Amazon**
– Semi-supervised language modeling for Alexa skills automatic speech recognition (ASR)
– Reduced overall ASR word error rates by 2%, with improvements across 50% of skills

2016 **Research Assistant, Computation and Cognition Lab, Stanford University**
– Bayesian probabilistic programming frameworks for optimal experimental design

2015 **Research Assistant, Computational Intelligence Group, Technical University of Madrid**
– Identifying Parkinson's disease subtypes from large international datasets
– Collaboration with King's College London and Carlos III Institute of Health

2015 **Research Assistant, Computational Cognitive Science Group, MIT**
– Bayesian nonparametric modeling of verb syntax
– Parallelized algorithms for BayesDB, an open-source machine learning package

2014 **Software Engineering Intern, Quantopian**

Publications, posters, and talks

Journal articles

2019 **The meta-science of adult statistical word segmentation: Part 1**
Joshua K. Hartshorne, Lauren Skorb, Sven L. Dietz, Caitlin R. Garcia, Gina L. Iozzo, Katie E. Lamirato, James R. Ledoux, **Jesse Mu**, Kara N. Murdock, Jon Ravid, Alyssa A. Savery, James E. Spizzirro, Kelsey A. Trimm, Kendall D. van Horne, and Juliani Vidal. *Collabra* 5(1):1

2017 **Parkinson's disease subtypes identified from cluster analysis of motor and non-motor symptoms**
Jesse Mu, Kallol Ray Chaudhuri, Concha Bielza, Jesús de Pedro Cuesta, Pedro Larrañaga, and Pablo Martinez-Martin. *Frontiers in Aging Neuroscience* 9:301

Conference papers

2019 **Shaping Visual Representations with Language for Few-shot Learning**
Jesse Mu, Percy Liang, and Noah Goodman. To appear in *NeurIPS Workshop on Visually Grounded Interaction and Language (ViGIL)*

2019 **Learning Outside the Box: Discourse-level Features Improve Metaphor Identification**
Jesse Mu, Helen Yannakoudakis, and Ekaterina Shutova. In *Proceedings of the 2019 North American Chapter of the Association for Computational Linguistics: Human Language Technologies*

2017 **Evaluating hierarchies of verb argument structure with hierarchical clustering**
Jesse Mu, Joshua K. Hartshorne, and Timothy J. O'Donnell. In *Proceedings of the 2017 Conference on Empirical Methods in Natural Language Processing*

Conference abstracts and posters

2019 **Do we need natural language? Exploring "restricted" language interfaces for complex domains**
Jesse Mu and Advait Sarkar. In *CHI '19 Extended Abstracts on Human Factors in Computing Systems*

2018 **Learning and evaluating hierarchies of verb argument structure**
Jesse Mu, Joshua K. Hartshorne, and Timothy J. O'Donnell. In *Learning Language in Humans and in Machines 2018 Conference* **(poster highlights)**

2016 **The relationship between semantics and verb argument structure is highly regular: a large-scale, crowd-sourced investigation**
Joshua K. Hartshorne, **Jesse Mu**, Timothy J. O'Donnell, and Martha Palmer. In *Architectures and Mechanisms for Language Processing*

2016 **Unsupervised learning of VerbNet argument structure**
Jesse Mu, Timothy J. O'Donnell, and Joshua K. Hartshorne. In *Proceedings of the 38th Annual Conference of the Cognitive Science Society*

Talks

2018 "Learning and evaluating hierarchies of verb argument structure"
Stanford Computation and Cognition Lab

2017 "Evaluating hierarchies of verb argument structure with hierarchical clustering"
Harvard Language and Cognition Seminar

Honors and awards

2018 Finch Family Fellowship, Stanford School of Engineering
2018 NSF Graduate Research Fellowship
2017 EMNLP 2017 Student Scholarship
2017 John J. Neuhauser Award in Computer Science, Boston College
2017 Thomas I. Gasson, S.J. Award, Boston College
2017 Phi Beta Kappa
2017 Churchill Scholarship
2016 Barry M. Goldwater Scholarship
2013 Gabelli Presidential Scholarship, Boston College

Teaching

2014–2016 Teaching Assistant, Computer Science I, Boston College

Leadership and service

2014–2017 Co-president, Boston College Computer Science Society
2014–2015 Director, *A Boston State of Mind*
2014–2015 Web Developer, Haley House
2014 English Teaching Assistant, Educational Development Group