Jeffrey Ling

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EDUCATION

Harvard University   **Cambridge, MA**
B.A. Computer Science & Mathematics, *magna cum laude with highest honors*   2013-2017
- Thesis: Coarse-to-Fine Attention Models for Document Summarization. Awarded highest honors by CS department.
- GPA: 3.92 / 4.0

WORK EXPERIENCE

Google   **New York, NY**
AI Resident, Google AI Language   June 2018 - present
- Research at the intersection of deep learning and natural language processing, leveraging Google-scale distributed systems.
- Trained systems for unsupervised learning of entities and relations from raw text, with applications to entity discovery and relation understanding. Two conference papers under submission in ACL 2019.

Vicarious AI   **San Francisco Bay Area, CA**
Research Engineer   August 2017 - June 2018
- Developed state-of-the-art systems for computer vision and robotic motion planning at a well-funded AI research startup. Applied deep learning approaches in object recognition for robotic grasping.

Harvard Natural Language Processing   **Cambridge, MA**
Research Assistant; Prof. Alexander Rush   Fall 2015 - Spring 2017
- Senior thesis project - independent research project on applying sparse attention methods to sequence-to-sequence neural network models for document summarization. Published in EMNLP 2017 Workshop on New Frontiers in Summarization.
- Wrote open source software for a convolutional neural network for sentence classification using Torch, a deep learning framework.

Google   **Mountain View, CA**
Software Engineering Intern, Google Translate   Summer 2015
- Developed a discriminative model for predicting word alignments, a critical step in the machine translation pipeline.
- Engineered features and raised word alignment evaluation metric from 76% accuracy to over 90%.

Software Engineering Intern, Gmail   Summer 2014
- Developed an experimental machine learning tool for Gmail's backend to predict when a user will be online.

Teaching at Harvard University   **Cambridge, MA**
Undergraduate Teaching Fellow   2015-2017
- CS 181 (Machine Learning), Stat 110 (Introduction to Probability Theory), CS 124 (Data Structures and Algorithms), Math 23a (Introduction to Linear Algebra and Real Analysis).
- Held office hours, wrote problems and section notes, taught course-wide sections and review sessions.
- Awarded Bok Center Certificate of Distinction in Teaching for CS 181 and CS 124.

PUBLICATIONS

Conferences
- Jeffrey Ling, Nicholas FitzGerald, Livio Baldini Soares, David Weiss, Tom Kwiatkowski. Learning entity representations from textual context. *Under submission in ACL 2019.*
- Livio Baldini Soares, Nicholas FitzGerald, Jeffrey Ling, Tom Kwiatkowski. Matching the blanks: distributional similarity for relation learning. *Under submission in ACL 2019.*
- Yuntian Deng, Anssi Kanervisto, Jeffrey Ling, and Alexander M. Rush. Image-to-markup generation with coarse-to-fine attention. In ICML, pages 980-989, 2017.

Workshops
- Rachit Singh*, Jeffrey Ling*, and Finale Doshi-Velez. Structured variational autoencoders for Beta-Bernoulli processes. In NIPS Workshop for Advances in Approximate Bayesian Inference, 2017. *Spotlight presentation.*
- Jeffrey Ling and Alexander M. Rush. Coarse-to-fine attention models for document summarization. In Proceedings of the Workshop on New Frontiers in Summarization at EMNLP, pages 33-42, 2017.

TECHNICAL SKILLS

Languages - C/C++, Python, HTML/CSS/Javascript, LaTeX
Frameworks/Technologies - ROS, PyTorch, TensorFlow, Git, Mercurial

AWARDS

Phi Beta Kappa - 2017
Silver Medalist at International Linguistics Olympiad (IOL) - 2013
Math Olympiad Summer Program - top 50 students on the USA Math Olympiad are invited (2011, 2012)