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ALEXANDER M. RUSH

Appointment

Harvard University School of Engineering and Applied Sciences 2015-. Assistant Professor of Computer Science

Facebook Artificial Intelligence Research Lab 2015. Post-Doctoral Fellowship

Advisor: Yann LeCunn

Education

Massachusetts Institute of Technology

2009-2014. Ph.D, Computer Science.

Advisor: Michael Collins

Dissertation: Relaxation Methods for Natural Language Decoding.

Columbia University

2011-2014. Visiting Scholar, Department of Computer Science.

Harvard University

 $2007.\ \, \text{B.A.},$ Computer Science. (Magna Cum Laude With Highest Honors.)

Grants and Awards

- 2012 Best Paper Award, North American Association of Computational Linguistics.
- 2010 Best Paper Award, Empirical Methods in Natural Language Processing.
- 2009 Graduate Research Fellow, National Science Foundation.
- 2006 Outstanding Undergraduate Award Finalist, Computing Research Association.

Recent Publications

Junbo Zhao, Yoon Kim, Kelly Zhang, Alexander M. Rush, Yann LeCun. Adversarially Regularized Autoencoders. In submission

Sam Wiseman, Stuart M Shieber Alexander M. Rush. Challenges in Datato-Document Generation. EMNLP 2017

Allen Schmaltz, Yoon Kim, Alexander M. Rush, Stuart M. Shieber. Adapting Sequence Models for Sentence Correction. EMNLP 2017

- Guillaume Klein, Yoon Kim, Yuntian Deng, Jean Senellart, Alexander M. Rush. OpenNMT: Open-Source Toolkit for Neural Machine Translation. ACL Demo 2017 (Best Demo Runner-up)
- Ankit Gupta, Alexander M. Rush. Dilated Convolutions for Modeling Long-Distance Genomic Dependencies. ICML CompBio 2017 (Best Poster)
- Yuntian Deng, Anssi Kanervisto, Jeffrey Ling, and Alexander M. Rush.

 Image-to-Markup Generation with Coarse-to-Fine Attention. ICML
 2017
- Hendrik Strobelt, Sebastian Gehrmann, Hanspeter Pfister, and Alexander M. Rush. LSTMVis: A Tool for Visual Analysis of Hidden State Dynamics in Recurrent Neural Networks. InfoVis 2017
- Yoon Kim, Carl Denton, Luong Hoang, and Alexander M. Rush. Structured Attention Networks. ICLR 2017
- Greg Yang and Alexander M. Rush. Lie-Access Neural Turing Machines. ICLR 2017
- Yoon Kim and Alexander M. Rush. Sequence-Level Knowledge Distillation. EMNLP 2016
- Alexander M. Rush and Slav Petrov, Vine Pruning for Efficient Multi-Pass Dependency Parsing. Proceedings of NAACL 2012. [Best Paper Award]
- Terry Koo, Alexander M. Rush, Michael Collins, Tommi Jaakkola, and David Sontag. *Dual Decomposition for Parsing with Non-Projective Head Automata*. Proceedings of EMNLP 2010. [Best Paper Award]

Patents

- Techniques for discriminative dependency parsing (Google). Slav Petrov, Alexander M. Rush, 2015.
- Efficient parsing with structured prediction cascades (Google). Slav Petrov, Alexander M. Rush, 2013
- Determining user affinity towards applications on a social networking website (Facebook., Thomas S. Whitnah, Alexander M. Rush, Ding Zhou, Ruchi Sangvhi, 2010.

Industry

Lead Engineer (Platform Team), Facebook, June 2007 – August 2009, Palo Alto, CA.

Open-Source

 $\operatorname{OpenNMT}\,$ - $\operatorname{Open-source}$ neural machine translation system.

LSTMVis - Visual analysis of recurrent neural network dynamics.

Sequence-to-Sequence with Attention $\,$ - General-purpose sequence-to-sequence model .

 CNN for Text Clasification - Convolutional sentence classification.