

# Mikhail Khodak

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Education	<b>Princeton University</b> M.S. in Computer Science (Expected) 2018 A.B. with Honors in Mathematics 2016
Positions	<b>Graduate Research Assistant, Princeton University</b> 2016-2018 Supervisor: Sanjeev Arora, Department of Computer Science Research: Theoretical machine learning and NLP. Computer networks and computational economics. <b>Summer Intern, Lawrence Livermore National Lab</b> 2015-2016 Supervisor: Richard Berger, Weapons and Complex Integration Research: Computational plasma physics and PDEs. Fluid modeling for inertial fusion plasmas. <b>Research Assistant, Princeton Plasma Physics Lab</b> 2014 Supervisor: Igor Kaganovich, Theory Department Research: Numerical optimization of plasma physics solvers. <b>Summer Intern, Princeton University</b> 2014 Supervisor: Jacob Shapiro, Empirical Studies of Conflict Center Research: Collection/statistical analysis of foreign census data. <b>Research Assistant, Princeton Plasma Physics Lab</b> 2011-2014 Supervisor: Samuel Cohen, Plasma Science & Technology Research: Computational plasma physics for fusion thrusters.

Publications	<b>Conference Proceedings:</b> M. Khodak, N. Saunshi, Y. Liang, T. Ma, B. Stewart, and S. Arora. <i>A La Carte Embedding: Cheap but Effective Induction of Semantic Feature Vectors</i> . ACL 2018. S. Arora, M. Khodak, N. Saunshi, and K. Vodrahalli. <i>A Compressed Sensing View of Unsupervised Text Embeddings, Bag-of-n-Grams, and LSTMs</i> . ICLR 2018. M. Khodak, L. Zheng, A. S. Lan, C. Joe-Wong, and M. Chiang. <i>Learning Cloud Dynamics to Optimize Spot Instance Bidding Strategies</i> . INFOCOM 2018. <b>Workshops and Abstracts:</b> M. Khodak, N. Saunshi, and K. Vodrahalli. <i>A Large Self-Annotated Corpus for Sarcasm</i> . LREC 2018. M. Khodak, A. Risteski, C. Fellbaum, and S. Arora. <i>Automated WordNet Construction Using Word Embeddings</i> . SENSE 2017. M. Khodak, R. L. Berger, T. Chapman, and J. A. F. Hittinger. <i>Development and application of a multi-fluid simulation code for modeling interpenetrating plasmas</i> . APS DPP 2015. S. A. Cohen, M. Chu-Cheong, A. Creely, A. Glasser, M. Khodak, E. Meier, C. Myers, T. Rognlien, A. Sefkow, and D. Welch. <i>A method to exhaust energy and ash from small aneutronic FRC reactors</i> . EPR 2013.
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## Talks

*A Compressed Sensing View of Unsupervised Text Embeddings, Bag-of-n-Grams, and LSTMs.* Seminar on Theoretical Machine Learning, IAS. 5 April 2018.  
*A Sparse Recovery View of Sentence Embeddings, Bag-of-n-Grams, and LSTMs.* Algorithms and Machine Learning Seminar, Princeton. 10 July 2017.  
*A Multi-Fluid Model for Interpenetrating Plasma Flows.* Hohlraum Science Campaign Meeting, LLNL. 17 August 2016.

## Teaching

### **Assistant in Instruction:**

Special Topics in Computer Science: Natural Language Processing	Spring 2018
Junior Seminar on Natural Language Processing	Fall 2017
Reasoning About Computation	Spring 2017
Reasoning About Computation	Fall 2016

### **Course Assistant:**

Theory of Games	Spring 2016
Theory of Games	Spring 2015