

Summary

I primarily study theoretical computer science and statistics, and have also worked on applications in natural language understanding, neuroscience, robotics, and economics.

I am interested in any opportunities involving the application of algorithms and statistics, particularly to scientific inquiry and artificial intelligence.

Education

Columbia University, September 2017 — present

Ph.D. in Computer Science

Advisors: Professor Daniel Hsu, Professor Alex Andoni

Topics: Theoretical machine learning, algorithms, statistics

Affiliations: [Columbia Data Science Institute](#), [Machine Learning Group](#), [Theory of Computation Group](#)

Princeton University, September 2012 — June 2017

A.B. Mathematics, M.S.E. Computer Science

Master's Thesis: Temporally Dependent Mappings Between fMRI Responses and Natural Language Descriptions of Natural Stimuli

Advisors: Professor Sanjeev Arora, Professor Ken Norman

Affiliations: [Unsupervised Learning Group](#), [ML Theory Group](#), [Princeton Neuroscience Institute](#), [Computational Memory Lab](#)

Research

Conference and Journal Proceedings

Attribute-Efficient Learning of Monomials over Highly-Correlated Variables. Alex Andoni*, Rishabh Dudeja*, Daniel Hsu*, Kiran Vodrahalli*. Oral Presentation. Algorithmic Learning Theory, March 2019.

A Large Self-Annotated Corpus for Sarcasm. Mikhail Khodak, Nikunj Saunshi, Kiran Vodrahalli. Poster. Language Resources and Evaluation, May 2018.

A Compressed Sensing View of Unsupervised Text Embeddings, Bag-of-n-Grams, and LSTMs. Sanjeev Arora*, Mikhail Khodak*, Nikunj Saunshi*, Kiran Vodrahalli*. Poster. International Conference on Learning Representations, April 2018.

A Temporal Decay Model for Mapping between fMRI and Natural Language Annotations. Kiran Vodrahalli, Cathy Chen, Viola Mocz, Christopher Baldassano, Uri Hasson, Sanjeev Arora, Kenneth A. Norman. Poster. Cognitive Computational Neuroscience, September 2017.

Mapping between fMRI responses to movies and their natural language annotations. Kiran Vodrahalli, Po-Hsuan Chen, Yingyu Liang, Christopher Baldassano, Janice Chen, Christopher Honey, Uri Hasson, Peter Ramadge, Kenneth A. Norman, Sanjeev Arora. Neuroimage, June 2017.

Workshop Presentations

Learning to Plan with Logical Automata. Brandon Araki*, Kiran Vodrahalli*, Cristian-Ioan Vasile, Daniela Rus. Oral Presentation and Poster. NeurIPS Infer2Control Workshop, December 2018.

Mapping between Natural Movie fMRI Responses and Word-Sequence Representations. Kiran Vodrahalli, Po-Hsuan Chen, Yingyu Liang, Janice Chen, Esther Yong, Christopher Honey, Peter J. Ramadge, Kenneth A. Norman, Sanjeev Arora. Oral Presentation and Poster. NeurIPS Workshop on Representation Learning in Artificial and Biological Neural Networks, December 2016.

A Semantic Shared Response Model. Kiran Vodrahalli, Po-Hsuan Chen, Janice Chen, Esther Yong, Christopher Honey, Peter J. Ramadge, Kenneth A. Norman, Sanjeev Arora. Oral Presentation and Poster. ICML Workshop on Multi-view Representation Learning, June 2016.

Teaching

Columbia University

Courses

Fall 2018: TA for COMS 6998 — Computation and the Brain (graduate)

Princeton University

Courses

Spring 2017: TA for COS 511 — Theoretical Machine Learning (graduate)

Fall 2016: TA for COS 397 — Independent Work Seminar in NLP

Spring 2014: Grader for COS 226 — Intro Algorithms

Fall 2013 — 2014: COS Lab TA for COS 126, 226, 217 — Intro Algorithms and Systems

Mentorship

Spring 2017: Advised the junior independent work of Cathy Chen (COS '18) and Viola Mocz (NEU '18) in neuroscience with Professor Ken Norman

Spring 2014 — Fall 2016: Seminar Leader for the NLP-ML Reading Group with Dr. Christiane Fellbaum

Industry Experience

Palantir Technologies, IQE Intern (Summer 2015)

Worked on adding support for distributed systems frameworks for machine learning pipelines with Spark, YARN, and HDFS.

Intel Corporation, Perceptual Computing Intern (Summer 2011 — 2012, 2013)

Worked on basic computer vision algorithms for depth-cameras analogous to Microsoft Kinect, 3D image capture, basic natural language processing, speech recognition evaluation. Investigated the feasibility of using brain-computer interfaces. Made a few gesture-based demos as well.

Awards

NSF Graduate Research Fellowship Award

Awarded March 2016 for Computer Science in the subfield Machine Learning.