Keyon Vafa

Columbia University
Department of Computer Science
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Interests

Machine Learning, Deep Generative Models, Computational Social Science, NLP

Education

Columbia University 2017 -
Ph.D. Computer Science
Advisor: David Blei

Columbia University 2016 - 2018
M.S. Computer Science

Harvard University 2012 - 2016
B.A. Computer Science and Statistics, *magna cum laude*

Awards and Fellowships

Cheung-Kong Innovation Doctoral Fellowship	2020 -
Columbia University Nominee for Google PhD Fellowship	2019
National Science Foundation, Graduate Research Fellowship	2016 - 2019
Columbia University Dean's Fellowship	2016 -
Elected to Phi Beta Kappa Society	2016
Bok Center Certificate of Distinction in Teaching	2015
John Harvard Scholar (grade point average in top 5% of class)	2013 - 2015

Work Experience

Software Engineer Intern, **Google Brain**	2018 - 2019
Research Intern, **Facebook Artificial Intelligence Research**	2017
Data Science Intern (Places Team), **Facebook**	2015
Software Engineer Intern (Data Science Infrastructure), **Facebook**	2014

Selected Papers

K. Vafa, S. Naidu, D. Blei. Text-based ideal points. *Proceedings of ACL*. 2020

D. Tran, **K. Vafa**, K. Agrawal, L. Dinh, B. Poole. Discrete flows: Invertible generative models of discrete data. *Proceedings of NeurIPS*. 2019

D. Eckles, A. Peysakhovich, **K. Vafa**. Deep neural networks for interpretable instrumental variable-based estimation of heterogeneous causal effects. *Conference on Digital Experimentation*, MIT. 2017

K. Vafa. Training deep Gaussian processes with sampling. *Advances in Approximate Bayesian Inference Workshop at NeurIPS*. 2016

K. Vafa, C. Haigh, A. Leung, N. Yonack. Price discrimination in the Princeton Review's online SAT tutoring service. *Journal of Technology Science*. 2015

Selected Talks

Test-Based Ideal Points (invited talk), Milstein Program Summer Speaker Series. Cornell Tech. 2020

Discrete Flows and Text-Based Ideal Points (guest lecture), *Machine Learning with Probabilistic Programming*, Columbia University. 2019

Text-Based Ideal Points, *Text as Data Conference*, Stanford University. 2019

Text-Based Ideal Points, *Caselaw Access Project Research Summit*, Harvard Law School. 2019

Teaching Experience

Department of Computer Science, Columbia University
Teaching Assistant, Foundations of Graphical Models (graduate level) 2018
Professor: David Blei

Department of Computer Science, Harvard University
Teaching Fellow, CS 281: Advanced Machine Learning (graduate level) 2015
Professor: Finale Doshi-Velez

Teaching Fellow, CS 181: Introduction to Machine Learning 2015
Professor: Ryan Adams

Conference Reviewing

International Conference on Machine Learning	2017 - 2020
Neural Information Processing Systems	2017 - 2020
Advances in Approximate Bayesian Inference	2017 - 2019
International Conference on Learning Representations	2017 - 2020
Top 33% Reviewer for ICML	2020

Press

Harvard Law Today blog post: Text-Based Ideal Points
ProPublica article: Princeton Review Price Discrimination
Today Show segment: Princeton Review Price Discrimination

Languages and Skills

Python (+ PyTorch and TensorFlow), R (+ Stan), SQL, Java, PHP, Go
English (native), French (advanced), Farsi (proficient)
Long distance running (ran 2016 Boston Marathon)