

# Keyon Vafa

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Columbia University  
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Interests	Machine learning, approximate Bayesian inference, causal inference, deep learning	
Education	<b>Columbia University</b> Ph.D. Computer Science Advisor: <a href="#">David Blei</a>	2016 -
	<b>Harvard University</b> B.A. (honors) Computer Science and Statistics	2012 - 2016
Awards and Fellowships	National Science Foundation, Graduate Research Fellow (\$34,000/year) Columbia University Dean's Fellow (full graduate funding) Graduated from Harvard magna cum laude Elected to Phi Beta Kappa Society Awarded high honors for undergraduate thesis Bok Center Certificate of Distinction in Teaching John Harvard Scholar (grade point average in top 5% of class)	2016 - 2019 2016 - 2016 2016 2016 2015 2013 - 2015
Work Experience	Research Intern, <b>Facebook Artificial Intelligence Research</b> Data Science Intern (Places Team), <b>Facebook</b> Software Engineer Intern (Data Science Infrastructure), <b>Facebook</b>	2017 2015 2014
Research Experience	<b>Deep neural networks for estimation of heterogeneous causal effects</b> Joint work with <a href="#">Alexander Peysakhovich</a> and <a href="#">Dean Eckles</a>  We're employing deep neural networks to estimate heterogeneous causal effects in instrumental variable models. Presented at <a href="#">Conference on Digital Experimentation at MIT</a> . Working paper.  <b>Training and inference for deep Gaussian processes</b> Supervised by <a href="#">Alexander Rush</a>  Proposed stochastic optimization inference method for deep Gaussian Processes (a regression model that combines Gaussian processes with deep architectures) for <a href="#">undergraduate thesis</a> . Presented as <a href="#">workshop paper at NIPS</a> .	2017 -     2016

	<p><b>Price discrimination in the Princeton Review's online SAT tutoring service</b> 2015</p> <p>Supervised by <a href="#">Latanya Sweeney</a></p> <p>Uncovered evidence of geographic-based price discrimination for Princeton Review's online tutoring service. Published in <a href="#">Journal of Technology Science</a>, presented to Federal Trade Commission in Washington D.C., and featured in <a href="#">Propublica</a> and on the <a href="#">Today Show</a>.</p>	
Selected Papers	<p>D. Eckles, A. Peysakhovich, and <b>K. Vafa</b>. Deep neural networks for interpretable instrumental variable-based estimation of heterogeneous causal effects. <i>Conference on Digital Experimentation</i>, MIT.</p> <p><b>K. Vafa</b>. <a href="#">Training Deep Gaussian Processes with Sampling</a>, <i>Advances in Approximate Bayesian Inference Workshop</i>, NIPS.</p>	2017 2016
Conference Reviewing	<p>International Conference on Machine Learning 2017</p> <p>Neural Information Processing Systems 2017</p> <p>Advances in Approximate Bayesian Inference Workshop (NIPS) 2017</p> <p>International Conference on Learning Representations 2017</p>	
Teaching Experience	<p><b>Department of Computer Science, Harvard University</b></p> <p>Teaching Fellow, CS 281: Advanced Machine Learning (graduate level) 2015</p> <p>Professor: <a href="#">Finale Doshi-Velez</a></p> <p>Teaching Fellow, CS 181: Introduction to Machine Learning 2015</p> <p>Professor: <a href="#">Ryan Adams</a></p>	
Languages and Skills	<p>Python (+ PyTorch and TensorFlow), R (+ Stan), SQL, Java, PHP, Go</p> <p>English (native), French (advanced), Farsi (proficient)</p> <p>Long distance running (ran 2016 Boston Marathon)</p>	