

MATT J. KUSNER

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EDUCATION

University of Oxford Associate Professor, Computer Science Tutorial Fellow, Jesus College	<i>October 2018 - Present</i>
The Alan Turing Institute Research Fellow University of Warwick	<i>August 2016 - October 2018</i>
Cornell University Visiting Ph.D. student in Dept. of Computer Science Advisor: Kilian Q. Weinberger	<i>August 2015 - August 2016</i>
Washington University in St. Louis Ph.D. from Dept. of Computer Science & Engineering Advisor: Kilian Q. Weinberger	<i>August 2011 - August 2016</i>
Macalester College B.A. in Computer Science, B.A. in Mathematics Member of Phi Beta Kappa Magna Cum Laude	<i>September 2007 - May 2011</i>

AWARDS

Turner Dissertation Award <i>Washington University in St. Louis</i> (awarded yearly to the best Ph.D. dissertation)	December 2016 <i>St. Louis, MO</i>
Konhauser Award for Mathematical Achievement <i>Macalester College</i> (awarded yearly to the top senior student in computer science)	May 2011 <i>St. Paul, MN</i>

PUBLICATIONS

Conference Publications

- John Bradshaw, Matt J. Kusner, Brooks Paige, Marwin H. S. Segler, José Miguel Hernández-Lobato
A Generative Model For Electron Paths
International Conference on Learning Representations (ICLR), 2019
- Amartya Sanyal, Matt J. Kusner, Adrià Gascón, Varun Kanade
TAPAS: Tricks to Accelerate (encrypted) Prediction As a Service
International Conference on Machine Learning (ICML), 2018
- Niki Kilbertus, Adrià Gascón, Matt J. Kusner, Michael Veale, Krishna Gummadi, Adrian Weller
Blind Justice: Fairness with Encrypted Sensitive Attributes
International Conference on Machine Learning (ICML), 2018
- David Janz, Jos van der Westhuizen, Brooks Paige, Matt J. Kusner, José Miguel Hernández-Lobato
Learning a Generative Model for Validity in Complex Discrete Structures
International Conference on Learning Representations (ICLR), 2018

Chirs Russell*, Matt J. Kusner*, Joshua R. Loftus, Ricardo Silva
When Worlds Collide: Integrating Different Counterfactual Assumptions in Fairness
Neural Information Processing Systems (NIPS), 2017

* indicates equal contribution

Matt J. Kusner*, Joshua R. Loftus*, Chirs Russell*, Ricardo Silva
Counterfactual Fairness (oral presentation)
Neural Information Processing Systems (NIPS), 2017

Matt J. Kusner, Brooks Paige, José Miguel Hernández-Lobato
Grammar Variational Autoencoder
International Conference on Machine Learning (ICML), 2017

Gao Huang, Chuan Guo, Matt J. Kusner, Yu Sun, Kilian Q. Weinberger, Fei Sha
Supervised Word Mover's Distance (oral presentation)
Neural Information Processing Systems (NIPS), 2016

Matt J. Kusner, Yu Sun, Karthik Sridharan, Kilian Q. Weinberger
Private Causal Inference (oral presentation)
Artificial Intelligence and Statistics (AISTATS), 2016

Gustavo Malkomes, Matt J. Kusner, Wenlin Chen, Kilian Q. Weinberger, Benjamin Moseley
Fast Distributed k-Center Clustering with Outliers on Massive Data
Neural Information Processing Systems (NIPS), 2015

Matt J. Kusner, Yu Sun, Nicholas I. Kolkin, Kilian Q. Weinberger
From Word Embeddings to Document Distances
International Conference on Machine Learning (ICML), 2015

Matt J. Kusner, Jacob R. Gardner, Roman Garnett, Kilian Q. Weinberger
Differentially Private Bayesian Optimization
International Conference on Machine Learning (ICML), 2015

Matt J. Kusner, Wenlin Chen, Quan Zhou, Zhixiang (Eddie) Xu, Kilian Q. Weinberger, Yixin Chen
Feature-Cost Sensitive Learning with Submodular Trees of Classifiers
AAAI Conference on Artificial Intelligence (AAAI), 2014

Matt J. Kusner, Stephen Tyree, Kilian Q. Weinberger, Kunal Agrawal
Stochastic Neighbor Compression
International Conference on Machine Learning (ICML), 2014

Jacob R. Gardner, Matt J. Kusner, Zhixiang (Eddie) Xu, Kilian Q. Weinberger, John P. Cunningham
Bayesian Optimization with Inequality Constraints
International Conference on Machine Learning (ICML), 2014

Zhixiang (Eddie) Xu, Matt J. Kusner, Gao Huang, Kilian Q. Weinberger
Anytime Feature Learning
International Conference on Machine Learning (ICML), 2013

Zhixiang (Eddie) Xu, Matt J. Kusner, Kilian Q. Weinberger, Minmin Chen
Cost-Sensitive Tree of Classifiers
International Conference on Machine Learning (ICML), 2013

Journal Publications

Mrinal Pahwa, Matt J. Kusner, Carl Hacker, David Bundy, Kilian Q. Weinberger, Eric Leuthardt
Optimizing the Detection of Wakeful and Sleep-Like States for Future Electro-cortico-graphic Brain Computer Interface Applications
PLOS ONE Journal, 2015

Zhixiang (Eddie) Xu, Matt J. Kusner, Kilian Q. Weinberger, Minmin Chen, Olivier Chapelle
Classifier Cascades and Trees for Minimizing Feature Evaluation Cost
Journal of Machine Learning Research (JMLR), 2014

Preprints

Joshua R. Loftus, Chris Russell, Matt J. Kusner, Ricardo Silva
Causal Reasoning for Algorithmic Fairness, May 2018

Jacob R. Gardner*, Paul Upchurch*, Matt J. Kusner, Yixuan Li, Kilian Q. Weinberger, Kavita Bala,
John E. Hopcroft
Deep Manifold Traversal: Changing Labels with Convolutional Features, March 2016

PROFESSIONAL ACTIVITIES

NIPS Workshop: Critiquing and Correcting Trends in Machine Learning December 2018
Co-organizer *Montreal, Canada*

NIPS Workshop: Machine Learning for Molecules and Materials December 2017; 2018
Co-organizer *Long Beach, CA; Montreal, Canada*

UAI Conference August 2018
Publications Chair *Monterey, CA*

NIPS Press Conference December 2017
Invited Speaker *Long Beach, CA*

NIPS Workshop on Machine Learning for Molecules and Materials December 2017
Co-organizer *Long Beach, CA*

ICML Conference June 2016
Workflow Chair *New York, NY*

ICML Workshop: Resource-Efficient Machine Learning July 2015
Co-organizer *Lille, France*

ICML Workshop: Learning with Test-Time Budgets June 2013
Co-organizer *Atlanta, GA*

Program Committee
ICML2019, NIPS2018, ICLR2018, NIPS2017, ICML2017, ICML2015, KDD2015, NIPS2015

TALKS

Talking Machines Podcast November 1, 2018

AI and ML in Cambridge (CamAIML) March 15, 2018

Cambridge Centre for Mathematical Sciences February 20, 2018

Oxford Computational Statistics and Machine Learning Seminar February 16, 2018

The Royal Society February 12, 2018

Cambridge University Engineering Department September 12, 2017

Benevolent AI July 4, 2017

London Machine Learning Meetup March 27, 2017

Oxford-Man Institute of Quantitative Finance November 15, 2016

TEACHING

Oxford Warwick Statistics Programme

Tutorial on Fairness and Causal Inference

February 2018

Oxford, UK

CS5780 Machine Learning

Teaching Assistant (bi-weekly office hours)

Spring 2016

Cornell University

CSE519T Advanced Machine Learning

Teaching Assistant (bi-weekly recitations)

Fall 2014

Washington University in St. Louis

CSE517a Machine Learning

Teaching Assistant (bi-weekly office hours, exam grading)

Spring 2014

Washington University in St. Louis

GRANT WRITING EXPERIENCE

Differentially Private Learning: From Theory to Applications

National Science Foundation Small

September 2016

Award #1618134