

# Justin Khim

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## Employment

*Applied Scientist II*

Sponsored Brands Advertising, Amazon.

January 2021–Present.

- Develop, productionize, and analyze advertising-facing recommendation systems.

*Postdoctoral Researcher*

Machine Learning Department, Carnegie Mellon University.

August 2019–December 2020.

## Education

*PhD in Statistics*

The Wharton School, University of Pennsylvania

May 2019

*Bachelor of Science with Honor, Mathematics*

California Institute of Technology

June 2014

GPA: 3.9

## Papers

Singh, S. and Khim, J. 2022. Optimal binary classification beyond accuracy. *Advances in Neural Information Processing Systems*.

Khim, J. and Loh, P. 2021. Permutation tests for infection graphs. *Journal of the American Statistical Association* 116 (534), 770-782.

Bali, S., Zheng, S., Gupta, A., Wu, Y., and Chen, B., Chowdhury, A., and Khim, J. 2021. Prediction of boreal peatland fires in Canada using spatio-temporal methods. Climate Change AI, ICML.

Srinivasan, V., Khim, J., Banerjee, A., and Ravikumar, P. 2020. Subseasonal climate prediction in the western US using bayesian spatial models. *Uncertainty in Artificial Intelligence*, 961-970, 2021.

Khim, J., Leqi, L., Prasad, A., and Ravikumar, P. 2020. Uniform convergence of rank-weighted learning. *International Conference on Machine Learning*.

Xu, Z., Dan, C., Khim, J., and Ravikumar, P. 2020. Class-weighted classification: trade-offs and robust approaches. *International Conference on Machine Learning*.

Kim, J., Gong, L., Khim, J., Weiss, J., and Ravikumar, P. 2020. Improved clinical abbreviation expansion via non-sense-based approaches. *Machine Learning for Health Workshop (ML4H)*, 161-178.

Khim, J., Jog, V., and Loh, P. 2019. Adversarial influence maximization. *IEEE International Symposium on Information Theory*.

Khim, J. and Loh, P. 2017. Confidence sets for the source of a diffusion in regular trees. *IEEE Transactions on Network Science and Engineering*. Volume 4, Issue 1.

Khim, J., Jog, V., and Loh, P. 2016. Computing and maximizing in linear threshold and triggering models. *Advances in Neural Information Processing Systems*.

### **Invited Presentations**

Adversarial Risk Bounds via Function Transformation. Workshop in Operations Research and Data Science (WORDS) 2018. Duke University, Durham, 2018.

### **Presentations**

Three Problems in Statistical Learning. Cornell ORIE Young Researchers Workshop. Ithaca, NY, 2019.

Networks Beyond Community Detection. Statscale & Isaac Newton Institute Statistical Scalability Workshop. Windermere, UK, 2018.

Adversarial Influence Maximization. Systems, Information, Learning, and Optimization (SILO) Seminar. Wisconsin Institute for Discovery, Madison, 2016.

Confidence sets for the source of a diffusion in regular trees. Workshop on Networks in the Social and Information Sciences, NIPS. Montreal, Canada, 2015.

### **Panel Discussions**

HP and Carnegie Mellon University Make Quantum Leaps in Data Science. Educause. Chicago, IL, 2019.

### **Experience**

Honorary Associate, UW-Madison Electrical and Computer Engineering Department Fall 2016 to 2019

Summer Undergraduate Research Fellowship, Caltech Summer 2012

Research Assistant in Economics, Caltech Summer 2011

### **Programming Experience**

Regular use: Python, Java, Typescript, PySpark, PyTorch

Some prior experience: R, Matlab, Mathematica, Haskell, Sage, C

### **AWS Skills**

CDK, SDK (Python, Java), EMR, S3, Batch, SageMaker, Athena, Glue, Lambda, StepFunctions, IAM

### **Teaching**

University of Pennsylvania Center for Teaching and Learning Teaching Certificate. Spring 2017.

Teaching Assistant. Statistics 101, Intro Business Stat. The Wharton School, Spring 2019.

Teaching Assistant. Statistics 102, Intro Business Stat. The Wharton School, Fall 2018.

Teaching Assistant. Statistics 102, Intro Business Stat. The Wharton School, Spring 2018.

Teaching Assistant. Statistics 422/722, Predictive Analytics. The Wharton School, Fall 2017.

Teaching Assistant. Statistics 431/511, Statistical Inference. The Wharton School, Spring 2017.

Teaching Assistant. Statistics 111, Introductory Statistics. The Wharton School, Spring 2016.

Teaching Assistant. Statistics 435/711, Forecasting Methods. The Wharton School, Fall 2015.

Teaching Assistant. Statistics 101, Intro Business Stat. The Wharton School, Spring 2015.

Teaching Assistant. Wharton Moneyball Academy, 2015 & 2016.

### **Service**

*European Journal of Combinatorics* reviewer.

*Information and Computation* reviewer.

*Journal of Global Optimization* reviewer.

*Journal of Machine Learning Research* reviewer.

*Mathematical Statistics and Learning* reviewer.

*AAAI* reviewer, 2020, 2021.

*ALT* reviewer, 2019.

*ICLR* reviewer, 2023.

*ICML* reviewer, 2019, 2020, 2023.

*NeurIPS* reviewer, 2016, 2020, 2021, 2022, 2023.

*Climate Change AI NeurIPS* reviewer, 2021, 2023.