Justin Khim

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Employment

Machine Learning Engineer
Meta Recommendation Systems — December 2024–Present

- Optimize late stage ranking models for Instagram Reels, Facebook Reels & Feed, and Facebook Ads
- Improve the usage of user history data in sequential model components (HSTU)

Applied Scientist
Amazon Ads — January 2021–December 2024

- Owned changes to advertiser-facing recommendation systems and controls for Sponsored Brands Ads
- Added signals and value modeling to keyword ranking, driving a 10% increase in ad spend
- Led engineers on improvements to keyword sourcing infrastructure, reducing latency from 1000 ms to 90 ms and cutting DDB costs by 75%.
- Worked with engineers to build an experiment evaluation platform that automated experiment analysis, eliminating a 3–5 day manual analysis

Postdoctoral Researcher
Machine Learning Department, Carnegie Mellon University — August 2019–December 2020

- Conducted machine learning research and supervised six graduate students
- Supervised six undergraduate students for the University of Toronto ProjectX research competition on ML for climate change

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

Programming Experience

Regular use: Python, PyTorch, SQL, Pandas, PySpark

AWS Skills: CDK (Typescript), SDK (Python, Java), EMR, Batch, SageMaker, Athena, Glue, Lambda

Selected 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 115 (534), 770–782.

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