in linkedin.com/in/caikitlearn

hackerrank.com/caikitlearn

- Tianyi Cai -

Updated 05/2025 **U**

github.com/caikitlearn

caikitlearn.github.io Canadian Citizen | US Permanent Resident tcai@mail.harvard.edu

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(857) 998-8619

SUMMARY

Profile

· Quantitative scientist with PhD + 8 years of experience in leveraging classical and bayesian statistics, machine learning, and software engineering to influence high-level decision-making

Skills

- · Causal Inference: doubly robust estimators, quasi-experimental methods, causal machine learning
- · Machine learning: tabular/panel/text data, model selection/validation, deployment/monitoring
- · Experimentation: study design, power analysis, bandit algorithms
- · Cross-functional collaboration, stakeholder communication, model interpretability, technical leadership

· Python, SQL, Spark, R, jupyter, LTFX Toolkit

EXPERIENCE

Staff Applied Scientist, Retail Trading

Coinbase, New York, NY 01/2025-Present

- · Launched end-to-end retail trading churn models to proactively target users for Customer Experience and Customer Relationship Management strategies
- · Informed pricing strategies by identifying causal effects between short-term pricing interventions and long-term metrics using observational data and econometric methods
- · Formalized the job ladder for Applied Scientists at Coinbase, standardizing responsibilities, skills, and interview processes

Senior Data Scientist, Planner Evaluation

Waymo, New York, NY 11/2022-01/2025

- · Halved the family-wise error rate of experiments used to evaluate onboard software using confidence interval adjustments
- · Pioneered the use of statistical power and minimum detectable effect throughout the broader Planner Evaluation team by authoring the API and writing supporting documentation
- · Provided statistical mentorship and workshops for teams across Waymo on topics such as resampling methods, type I/II error, and quantifying uncertainty

Senior Research Data Scientist, Quantitative Engineering

Meta, New York, NY 02/2021-11/2022

- · Doubled user engagement of infrastructure tools by collaborating with engineering, product, design, and UX research as the scientific point of contact in a 100 person team
- · Served as the technical lead for the data team through multiple product and feature launches by providing mentorship, planning, and stakeholder management
- Guided engineers to optimize the design of experiments intended to reduce latency in Core Infra services, yielding more principled decision-making

Applied Scientist II, Global Intelligence

Uber, San Francisco, CA 01/2020-02/2021

- · Estimated point and interval values of competitive intelligence metrics used in executive decision-making
- · Engineered an ensemble of machine learning models using internal and third-party data to identify rare user groups for multi-million dollar experiments; improved the legacy model by doubling precision

Senior Data Scientist, Data and Research

BitSight, Boston, MA 10/2017-01/2020

- · Led all data science projects for third-party cybersecurity risk management, including BitSight's inaugural machine learningbased product, multiple analytical tools, and observational studies to evaluate internal processes
- · Supervised Master's-level intern working on validation of external financial data and sales/marketing analytics

EDUCATION

PhD, Biostatistics, 2017 BMath, Statistics and Actuarial Science, 2012

Harvard University, Cambridge, MA University of Waterloo, Waterloo, ON, Canada