

 [linkedin.com/in/taicai](https://www.linkedin.com/in/taicai)


 github.com/caikitlearn

 [hackerrank.com/caikitlearn](https://www.hackerrank.com/caikitlearn)


– TAI CAI, PhD –

caikitlearn.github.io

Canadian Citizen | US Permanent Resident

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tcai@mail.harvard.edu 

(857) 998-8619 

SUMMARY

- Profile** · Quantitative scientist with 6.5 years (after PhD) of tech industry experience in leveraging applied statistics, machine learning, and software engineering to influence high-level decision-making
- Expertise** · Bayesian statistics (probabilistic programming, causal inference, hierarchical models, nonparametric methods)
· Classical statistics (statistical learning, experimental design, mixed models, time series)
· Machine learning (tree-based models, deep learning, theory)
· Cross-functional collaboration to develop and productionize data-driven products and insights
- Toolkit** · Python, SQL, R, jupyter, Vim

EXPERIENCE

- Data Scientist, Planner Evaluation** *Waymo, New York, NY* 11/2022–Present
- Halved the family-wise error rate of experiments used to evaluate onboard software by successfully launching confidence interval adjustments in collaboration with front-end and back-end engineering teams
 - 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 for teams across Waymo on topics such as resampling methods, type I/II error, and quantifying uncertainty; promoted better statistical fluency across Planner Evaluation by teaching a short course
- Research Data Scientist, Quantitative Engineering** *Meta, New York, NY* 02/2021–11/2022
- Collaborated (with engineering, product, design, and UX research) as the scientific point of contact in a 100 person team to build, improve, and migrate users to infrastructure tools, doubling user engagement in the process
 - 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, 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
- 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 learning-based 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
- Technical Advisor** *Insight Data Science, Boston, MA* 06/2019–09/2019
- Mentored data science projects for PhD graduates and postdoctoral fellows by providing weekly 1-on-1 feedback

EDUCATION

- PhD, Biostatistics** *Harvard University, Cambridge, MA* 08/2012–09/2017
- Conducted and published statistical research on applied problems in genetics, health care policy, and end-of-life care
 - Developed novel methods and R code for handling confounding, sampling bias, misclassified and/or correlated outcomes, intractable cross-validation, and hierarchical structures
 - Taught graduate-level classes in Bayesian statistics, statistical methods, and introductory statistics/epidemiology
- BMath, Statistics and Actuarial Science** *University of Waterloo, Waterloo, ON, Canada* 09/2007–06/2012
- René Descartes National Scholar; Graduated with Distinction - Dean's Honours List (Highest Honours)
 - Associate of the Society of Actuaries designation completed 03/2012
 - Six work semesters at Logitech, Hewitt Associates, Manulife Financial, and Munich Re