

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


 [github.com/caikitlearn](https://github.com/caikitlearn)

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


– TAI CAI, PHD –

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

Canadian Citizen | US Permanent Resident

Updated 05/2020 

[tcai@mail.harvard.edu](mailto:tcai@mail.harvard.edu) 

(857) 998-8619 

## SUMMARY

<b>Profile</b>	· Quantitative scientist working at the intersection of statistics/machine learning, research science, product management, and data/software engineering
<b>Areas of Expertise</b>	· Cross-functional collaboration to productionize/engineer data-driven products and features · Bayesian statistics (causal inference, hierarchical models, model selection, nonparametric methods) · Classical statistics (statistical learning, experimental design, mixed models, time series) · Deep learning (artificial/recurrent/convolutional neural networks)
<b>Frequently Used</b>	· Python, Tensorflow, Keras, LightGBM, R, SQL, Spark, jupyter, Vim, $\LaTeX$
<b>Sometimes Used</b>	· Java, C++, HTML, CSS, Javascript

## EXPERIENCE

**Data Scientist II**, Global Intelligence Core Analytics and Science *Uber, San Francisco, CA* 01/2020–Present

- Engineered an ensemble of predictive models using internal and third-party data to identify rare user groups for multi-million dollar experiments; improved legacy model performance by a factor of 2
- Analyzed the aforementioned experiments to identify statistically significant metrics, and dissected the limitations of the existing experimental design to improve future allocation of resources
- Estimated point and interval values of competitive intelligence metrics used in executive decision-making
- Identified and corrected multiple errors and inefficiencies found in the team repository, ranging from production code to deliverables used by stakeholders

**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:
  - Tier Recommender, BitSight's first machine learning based product, which leverages unique network data
  - Enterprise Analytics, a product that computes and evaluates hypothetical risk scenarios for corporations
  - Fourth-Party Risk Management, a tool that provides visibility into business ecosystems
- Designed observational studies to evaluate the association and causality of relationships pertaining to efficacy of products, impact of extraneous events, and influence of internal interventions
- Supervised Master's-level intern working on 1) validation of external financial data and 2) sales and marketing analytics
- Organized reading groups covering advanced topics in forecasting, prediction intervals, and model evaluation

**Technical Advisor, Data Science Fellow** *Insight Data Science, Boston, MA* 05/2017–09/2019

- As Technical Advisor: Mentored data science projects for PhD graduates and postdoctoral fellows by providing weekly 1-on-1 feedback on project ideation/viability, data considerations, modeling techniques, and communication skills
- As Data Science Fellow: Consolidated and cleaned multiple data sources to tally millions of labeled data points to predict and visualize real-time supply and demand at 200 bike-sharing stations

## EDUCATION

**PhD, Biostatistics**, 2017 *Harvard University, Cambridge, MA*

- 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 sampling bias, misclassified outcomes, correlated outcomes, intractable cross-validation, hierarchical structures, and confounding
- Taught graduate-level classes in introductory statistics/epidemiology, statistical methods, and Bayesian statistics

**BMATH, Statistics and Actuarial Science**, 2012 *University of Waterloo, Waterloo, ON, Canada*

- Graduated with Distinction – Dean's Honours List (Highest Honors)
- Completed six work semesters at Logitech, Hewitt Associates (now Blackstone), Manulife Financial, and Munich Re

## PERSONAL PROJECTS

<b>Stephen A.I. Smith</b>	· Twitter bot trained on Stephen A. Smith's tweets, using transfer learning via Open AI's GPT-2 model, GloVe Twitter embeddings, and a Bidirectional LSTM model for scoring generated tweets
<b>CRISPR-be-deep</b>	· Exploration of gene editing data using convolutional and recurrent neural networks