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– TAI CAI, PHD –

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SUMMARY

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|---------------------------|--|
| Profile | · Quantitative scientist working at the intersection of applied statistics, machine learning, research science, software engineering, and product management |
| Areas of Expertise | · 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) |
| Frequently Used | · Python, Tensorflow, Keras, LightGBM, R, SQL, Spark, jupyter, Vim, \LaTeX |
| Sometimes Used | · Java, C++, HTML, CSS, Javascript |

EXPERIENCE

Senior Research Data Scientist, Infrastructure Quantitative Engineering **Facebook**, New York, NY 02/2021–Present
· Onboarding for the artificial intelligence infrastructure team

Data 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 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
· 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 that 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/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 **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 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 **University of Waterloo**, Waterloo, ON, Canada 09/2007–06/2012
· Graduated with Distinction - Dean's Honours List (Highest Honors)
· Completed six work semesters at Logitech, Hewitt Associates (now Blackstone), Manulife Financial, and Munich Re
· René Descartes National Scholar