Jingyi Kenneth Tay

Curriculum Vitae

✉ *kjytay@stanford.edu*
kjytay.github.io/
kjytay
kjytay

Education

2016–Present **Ph.D. Candidate in Statistics**, *Stanford University*, Stanford, CA.

2016–2019 **M.S. in Statistics**, *Stanford University*, Stanford, CA.

2006–2010 **A.B. in Mathematics**, *Princeton University*, Princeton, NJ.
Summa Cum Laude. Certificates in Program of Applied & Computational Mathematics, Program of Finance.

2004–2005 **GCE 'A' Levels**, *Anglo-Chinese Junior College*, Singapore, *4 As, 2 Special Paper Distinctions*.

Research

Preprints and Papers Under Review

1. J. K. Tay, J. Friedman, and R. Tibshirani. (2018). Principal component-guided sparse regression. *arXiv:1810.04651v2 [stat.ME]*, 2018. URL https://arxiv.org/abs/1810.04651. R code https://CRAN.R-project.org/package=pcLasso.

2. J. K. Tay, and R. Tibshirani. (2018). A latent factor approach for prediction from multiple assays. *arXiv:1807.05675 [stat.ME]*, 2018. URL https://arxiv.org/abs/1807.05675.

Theses and Dissertations

1. J. K. Tay. (2010). Maximizing expected logarithmic utility in a regime-switching model with inside information. Senior Thesis. Advisor: Ramon van Handel.

2. J. K. Tay. (2009). Construction of space-time block codes from a decoding point of view. Junior Independent Work. Advisor: Robert Calderbank.

Teaching

Course Instructor

Autumn 2019-20	STATS 32, Introduction to R for Undergraduates	Stanford University
Autumn 2018-19	STATS 32, Introduction to R for Undergraduates	Stanford University
Summer 2017-18	STATS 302, Qualifying Exams Workshop (Applied Statistics).	Stanford University
Autumn 2017-18	STATS 32, Introduction to R for Undergraduates	Stanford University

Teaching Assistant

Winter 2018-19	STATS 191, Introduction to Applied Statistics	Stanford University
Summer 2017-18	STATS 216V, Introduction to Statistical Learning	Stanford University
Spring 2017-18	STATS 305C, Methods for Applied Statistics II: Applied Multivariate Statistics	Stanford University
Winter 2017-18	STATS 216, Introduction to Statistical Learning	Stanford University
Summer 2016-17	STATS 116, Theory of Probability	Stanford University
Summer 2016-17	STATS 290, Paradigms for Computing with Data	Stanford University
Autumn 2016-17	STATS 116, Theory of Probability	Stanford University

Work Experience

06/2019–09/2019 **Applied Scientist Intern (Search Relevance)**, *A9.com, Amazon Search*, Palo Alto, CA.

- Conceptualized and constructed data pipelines for new, granular metrics for Amazon search relevance models. Processed ∼1B queries and ∼20B item responses to obtain dataset for predictive modeling.
- Built a model based on these pre-experiment metrics to predict performance on live customer traffic, so that experimental bandwidth can be allocated more efficiently. Model improved test performance metric by 20% over baseline.

10/2015–08/2016 **Data Scientist (Data Science Division)**, *Infocomm Development Authority of Singapore*, Singapore.

- Spearheaded engagements with a wide array of government agencies (economic, transport, social) to analyze their data to support public policymaking. Responsibilities included project scoping, data cleaning, visualization, statistical analysis and presentation of results.
- Systematized and tested recruitment framework and materials for all roles in the division, including data scientist, quantitative strategist and front-end developer.
- Developed division's operating policy for data management and statistical disclosure control.

04/2014–03/2015 **Staff Well-Being Committee Chair**, *Ministry of the Environment & Water Resources*, Singapore.

- Led team of 10 officers in conceptualizing and executing activities to improve staff welfare and morale.
- Managed and accounted for budget (20K+) for staff welfare.

09/2013–09/2015 **Assistant Director (Environmental Policy Division)**, *Ministry of the Environment & Water Resources*, Singapore.

- Drove progressive policies to ensure sustainability and efficiency of Singapore's waste management system.
- Facilitated Ministry's strategic planning by conceptualizing and organizing Policy Wing retreat.
- Evaluated usefulness of movement data in predicting spread of *Chikungunya* virus in Singapore.

04/2012–08/2013 **InfoComm Technologies Engineer**, *Ministry of Defense*, Singapore.

- Evaluated operational performance of critical communications systems.
- Made operational effectiveness more transparent by developing and implementing a new reporting dashboard for senior management.
- Strengthened in-house user adoption of systems through crafting and delivering technical presentations.

Awards and Honors

2019 Honorable Mention, American Statistical Association's Statistical Learning and Data Science Student Paper Competition.

2017, 2018 Departmental Teaching Assistant Award.

2017 Two Sigma Graduate Fellowship in Statistics.

2010 Election to Sigma Xi Honor Society.

2009 Early Induction to Phi Beta Kappa Honor Society (top 1% of cohort).

2007, 2008 Shapiro Prize for Academic Excellence, Princeton University.

2007 Second Prize, International Mathematics Competition.

2006, 2008 Honorable Mention, William Lowell Putnam Competition.

2006-2010 Public Service Commission Overseas Merit Scholarship (Open) (full-ride college scholarship), Public Service Commission, Singapore.

2006 Lee Kuan Yew Award for Mathematics & Science, Ministry of Education, Singapore.

2005 Gold Award (top score), Asian-Pacific Mathematical Olympiad.

2004, 2005 Sliver Medal, International Mathematical Olympiad.

2003 Honorable Mention, International Mathematical Olympiad.