Kenneth Hung

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Education

University of California, Berkeley — Berkeley, CA
Ph.D. in Mathematics; GPA: 3.9/4.0 — *Aug. 2014 – May 2019*

California Institute of Technology — Pasadena, CA
B.S. with Honors in Mathematics and Computer Science (minor); GPA: 4.0/4.0 — *Sept. 2010 – May 2014*

Work Experience

Meta Platforms Inc. — San Francisco, CA
Research Scientist, Core Data Science — *Jul. 2019 – Present*

- **Meta-analysis of experimental data**: Improved experimentation efficiency and quality through empirical Bayesian methods
- **Causal inference**: Semiparametric-efficient estimation in experiments, treatment effect estimation in experiments with spillover

Citadel LLC — Chicago, IL
Quantitative Researcher Intern — *May 2017 – Aug. 2017*

- **Market making team**: Two projects on high frequency trading stock price predictive models
- **Model selection**: Investigated new high-dimensional feature selection in linear models for best model and best model path

Selected Publication and Preprints

Empirical Bayes selection for value maximization
Dominic Coey and Kenneth Hung, arXiv — *2022*

- **Regret bound**: Proof of a regret bound when solving a choose-m-out-of-n-items problem using an empirical Bayes approach
- **Semi-synthetic simulations**: Simulation based on publicly available datasets to illustrate the regret in a parametric case, achieving the proved regret bound under correct specification

Statistical methods for replicability assessment
Kenneth Hung and William Fithian, Annals of Applied Statistics — *2020*

- **Meta-analysis**: Analyzed dataset from experimental psychology replications to quantitatively answer previously vague questions about replicability in the scientific domain
- **Multiple testing and post-selection inference**: Developed new tests and new metrics for replicability analysis
- **Simulations and recommendations**: Simulations and data visualizations in support of better future scientific practices

Rank verification for exponential families
Kenneth Hung and William Fithian, Annals of Statistics — *2019*

- **Multiple comparison with sample best**: Devised a more powerful approach to this classical problem that handles sparse large parameters without sacrificing power in the dense case
- **Simulations**: Demonstrated gains in power using Matlab, Python and R

Skills

Languages: C/C++, Mathematica, Matlab, Python, R

Technologies: git, LaTeX

Honors and Awards

Scott Russell Johnson Undergraduate Prize, California Institute of Technology
Awarded to the best graduating mathematics major — *2014*

International Mathematical Olympiad
Represented Hong Kong; Bronze and Silver — *2009, 2010*