TERENCE CHAU

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EDUCATION

Ph.D. & M.A. University of Chicago (Chicago, IL): Public Policy. June 2023.
Fields (Department of Economics): Labor Economics; Econometrics and Statistics.
Dissertation Title: Essays on Innovation and Economic History.
B.A. Universidad de Costa Rica (San José, CR): Economics, 2016.

SKILLS

Technical: Econometrics, Causal Inference, Machine Learning.
Software: Advanced: R, Stata, GIS. Intermediate: Python, Apache Spark (Scala), SQL, S3.

RESEARCH EXPERIENCE

Intern - Economics, Core AI June 2022 - September 2022
Amazon, Seattle, WA

- Designed and carried out causal analysis of internal business question using AWS (SageMaker & S3) and Spark on hundreds of millions of observations.
- Wrote 30-page white paper, 2-page executive summary, and communicated results to non-technical stakeholders.
- Success of project let to stakeholder agreement to run a follow up large scale, nationwide experiment.

Doctoral Researcher June 2018 - Present
Harris School of Public Policy, University of Chicago, Chicago, IL

- Main thesis chapter: Studied the impact of NASA's creation on innovation using difference-in-differences and event study models. Found spaceflight patenting increased 47.9% post-NASA, impact of these fields increased by 65.6%, and impact extended to non-spaceflight fields.
- Linked patents to all 1850-1880 US manufacturing firms using random forests. Found handlinking achieves highest accuracy in low dimensional setting with rare true matches.
- Mapped river-level waterpower across entire US using high resolution National Hydrography GIS data to study geographic firm clustering in the 19th century.

Graduate Research Assistant June 2018 - Present
Harris School of Public Policy & Booth School of Business, University of Chicago, Chicago, IL

- Longitudinally linked all 1850-1880 US manufacturing firms using logistic regression, random forests, and XGBoost. Supervised 20 research assistants to create training data from digitized historical Census manuscripts.
- Predicted domestic abuse recidivism in Manchester, UK. Showed current police protocol predicts similarly to a random guess. Developed sampling-based, asymmetric cost random forest classifier that increased predictive power by 27.2%.
- Studied the effect of German geographic dialect on wages using historical dialect data and IV-LASSO. Cross-checked R and Stata implementations and discovered estimation coding error in official IV-LASSO R library.

OTHER EXPERIENCE

Economic Affairs Intern September 2016 - March 2017
United Nations Economic Commission for Latin America and the Caribbean, Washington, D.C.

Research Assistant Intern September 2015 - March 2016
United Nations Development Programme, San José, Costa Rica