NBER Digitization Tutorial: Student Application

CONTACT INFORMATION

Katherine Hoffmann Pham
44 West 4th Street, KMC 8-186
New York, NY 10012
650-823-2853
khof@nyu.edu

COURSE OF STUDY

PhD Information Systems (3rd year)
Stern School of Business, NYU

- **Primary focus:** Economics track
- **Secondary focus:** Technical track
- **Supervisors:** Arun Sundararajan, Panos Ipeirotis

COURSEWORK

- **Economics and Statistics:** Digital Economics Research Seminar, Math for Economists, Choice Models in Operations, Microeconomics, Industrial Organizations, Econometrics, Probability Theory, Statistical Inference and Regression Analysis, Causal Inference
- **Technical:** Technical Foundations of Information Systems, Data Science Research Seminar, Foundations of Machine Learning, Machine Learning and Computational Statistics, Big Data Science
- **Behavioral:** IT and Organizations Research Seminar, Behavioral Research Methods

RESEARCH INTERESTS AND PROJECTS

- **Uber and Public Transit:** My ongoing research uses open data from the city of New York to study how ridesharing affects the use of public transportation. Specifically, I am building a model of transportation mode choice using aggregate data on Uber, taxi, and subway rides at the taxi zone level. I incorporate additional data on demographic characteristics, estimated trip characteristics, and other zone-level characteristics in an effort to estimate how these characteristics drive preferences for ridesharing. Earlier work on this project looked at subway service disruptions, estimating the extent to which disrupted zones saw spillovers into other modes of transit.
- **Automatic Identification of Search Behavior in Trajectory Data:** In collaboration with UN Global Pulse, I analyze trajectory data from NGO-run ships that rescue refugees off the Libyan coast. I apply machine learning algorithms with the goal of automatically detecting search and rescue activity using trajectory characteristics. In the Mediterranean, which is traversed by thousands of unique ships emitting data as often as once every two minutes, automated trajectory segmentation and classification is a critical step in facilitating an efficient study of refugee rescue patterns.
- **Causal Inference and Machine Learning:** One of my additional research interests is the use of machine learning in causal inference, which I have chosen as the topic for my third-year depth qualifying exam. In particular, I am interested in how machine learning can be used to estimate heterogeneous treatment effects and extend experimental estimates to new settings (e.g. different populations, different treatments). I am also interested in how observational data can be used to supplement limited experimental data.