Digital Economics and AI Tutorial

880 Massachusetts Ave Apt #2
Cambridge, MA 02139
Email: deanli@mit.edu

Dear Professors Avi Goldfarb and Catherine Tucker,

My name is Dean Li, and I am writing to apply to attend the Digital Economics and AI Tutorial. I am a third-year Economics Ph.D. student at MIT, and I am keenly interested in studying the consequences of digitization, privacy regulations, and data sharing for firms and workers. These research interests have closely informed my ongoing work.

For example, in ongoing work with Mert Demirer, Diego Jiménez-Hernández, and Sida Peng, we use confidential data from one of the world's largest cloud computing providers to study the effects of the GDPR on firms' data storage and computation decisions over a seven-year horizon. In particular, the widespread adoption of cloud computing and its on-demand nature make it an attractive setting for directly studying firm demand for key data inputs and how this demand responds to privacy regulations. First, we use an event study approach to document the impact of the GDPR on firm data decisions. Next, we complement this analysis with a production function approach that allows us both to study how firms combine data and computation and to estimate the "wedge" generated by the GDPR in the cost of data. We're presenting this paper at the NBER SI Digital Economics and Artificial Intelligence Session, and I'm excited to continue working to shed light on the ways that firms use data across industries.

In a second project, I investigate the effect of a wave of hospital electronic health record (EHR) system adoption—triggered by massive government policy initiatives—on worker mobility and labor market concentration. Event study and instrumental variables specifications that leverage variation in both the timing of adoption and the brand of systems adopted (Epic, Cerner, MediTech, etc.) show that the technological fragmentation of a labor market affects both workers' overall levels of mobility and the direction of their job transitions. For example, after the period of rapid EHR adoption, physicians were 25% more likely to move between a given pair of hospitals when they shared the same EHR system compared to the likelihood of moving across the same hospitals in the pre-adoption period. These effects are concentrated among non-surgical doctors and the specialties that spend the most time working directly with EHR systems.

Finally, in another ongoing project, I draw from American Health Association IT Surveys and Medicare Part D data to study the effects of data sharing—and a lack thereof—on risky prescription opioid use. Many of the most common policies aimed at curbing the opioid epidemic are fundamentally built on data-sharing procedures. Both prescription monitoring programs and opioid prescribing limits for opioid-naive patients, for example, rely on the ability of medical institutions to share data. I aim to measure the effect that interoperability between electronic health record systems has on preventing opioid abuse and doctor-shopping outcomes.

I would be thrilled at the opportunity to attend this tutorial. Beyond the valuable presentations and discussions, I deeply value the relationships I would form. In past sessions, I've had the opportunity to meet new mentors, potential co-authors, and friends, and I'd love to form more such relationships at the Digital Economics and AI Tutorial. In addition, I would be happy to stay with my cousin in Toronto, and I wouldn't need any accommodation funding.

Thank you for your time and consideration!

Dean Li

Dean Li

880 Massachusetts Ave Apt. 2; Cambridge, MA 02139 • deanli@mit.edu • (847) 312-6988

EDUCATION

MIT - GPA: 4.00/4.00; *NSF GRFP, Castle Krob Fellowship* **Cambridge, MA • Fall 2021 - Expected 2026**
Doctorate in Economics

Yale University - GPA: 3.96/4.00; *Summa Cum Laude, Phi Beta Kappa* **New Haven, CT • Class of 2019**
Bachelor of Arts in Economics and Mathematics
Bachelor of Arts in Computer Science

ONGOING RESEARCH PROJECTS

Broader Research Interests: Topics in Health Economics, Digitization, and Industrial Organization

"What Drives Risky Prescription Opioid Use"
- Joint work with Amy Finkelstein, Matthew Gentzkow, and Heidi Williams studying the drivers of the US prescription opioid crisis and potential policy implications.
- Presenter at 2022 ASSA Annual Meeting
- Reject and re-submit at the QJE

"Data, Privacy Laws and Firm Production: Evidence from the GDPR"
- Joint work with Mert Demirer, Diego Jiménez-Hernández, and Sida Peng studying the effects of privacy regulations on firm demand for data storage and computation through a production function approach
- To be presented at SI 2023 Digital Economics and Artificial Intelligence Conference

"The Effect of Technological Fragmentation on Worker Mobility: Evidence from Hospital EHR Systems"
- Draft studying the impact of a wave of hospital electronic health record (EHR) system adoption on worker mobility

Other Ongoing Work:
- *Information Sharing and Risky Opioid Use*
- *The Drivers and Consequences of Outsourcing in Nursing Homes (joint work with Connie Xu and Ruby Zhang)*
- *Monopoly and Monopsony Power in Nursing Homes: Evidence from Changes in Ownership (joint work with Connie Xu and Ruby Zhang)*

RESEARCH POSITIONS

National Bureau of Economic Research **Cambridge, MA • August 2023 – August 2024**
Graduate Fellow in Aging and Health Research

Microsoft Research **Cambridge, MA • May 2021 – August 2022**
Research Intern
- Presented internal project on labor market effects of Microsoft technologies and a framework for causal inference.
- Analyzed US Census data with Daron Acemoglu to examine growing wage inequality and the decline of "good jobs."

Massachusetts Institute of Technology **Cambridge, MA • July 2019 – May 2021**
Pre-Doctoral Fellow to Professor Amy Finkelstein
- Provided research assistance on projects related to selection in cancer screening, scope of practice in direct-care workforce, market design in health insurance, geographic variation in healthcare costs and how they relate to wage inequality, and the role of patient-based and place-based channels in influencing hazardous opioid prescribing.
- Implemented models to estimate willingness to pay for indemnity insurance against cancer diagnosis.

National Science Foundation **Alexandria, VA • May 2021**
2021 NSF GRFP ($138,000 Accepted)
2019 NSF GRFP ($138,000 Awarded)

LEADERSHIP AND SERVICE

Boston Tax Help Coalition **Boston, MA • January 2020 – Present**
Volunteer at Boston Chinatown Neighborhood Center

Asian American Cultural Center **New Haven, CT • May 2017 – May 2018**
Co-Director

- Directed paid staff of twenty students to support over 1,500+ students and 50+ affiliated groups
- Developed inaugural year of a senior symposium and worked with university to increase cultural mental health resources

PROFESSIONAL EXPERIENCE

D.E. Shaw **New York City, NY • June 2018 – August 2018**
Fundamental Equities Trading Intern

PortfolioQuest **Singapore • June 2017 – August 2017**
Product Manager

LANGUAGES AND TECHNICAL SKILLS

Programming Skills: Stata, R, Python, C, Shell