Application - Digital Economics and AI Tutorial

Contact Information

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Graduate Program Summary

I am a third-year PhD student in the Strategy & Innovation area at the Georgia Institute of Technology's Scheller College of Business (2023–present). My coursework has included Econometrics I & II, Applied Econometrics, Microeconomic Theory, Machine Learning for Economics, Innovation & Technology Policy, Strategic Management Research, Organization Theory, and Research Methods in Entrepreneurship.

I earned an MA in Business with Decision Analytics from the University of Edinburgh (2017–2021), alongside a year-long exchange at the University of Texas at Austin (2019–2020). Prior to graudate school I worked in VC and financial services industries.

Research Interest Summary

My research interests are centered around understanding how subtle, often invisible barriers impact innovation and collaboration, and the consequences of small changes in the provision of resources critical to innovative processes. Specifically, I am looking to study the resulting quality, quantity, and direction of new knowledge in the light of resource constraints. I am also interested in heterogeneity: who gains or loses when these constraints change, and under what circumstances resource limits can enhance innovation.

Research Projects

A Tale of Two Zones: The Impact of Time Zone Separation on Collaboration and Knowledge Flows (Working Paper)

In this paper, I examine whether time-zone boundaries act as barriers to collaboration and knowledge flow across U.S. city pairs. While spatial distance has well-documented negative effects on communication and innovation, we know far less about the consequences of temporal distance for knowledge transfer and coordination.

I construct a pair-year panel of patent citations and collaborations between U.S. cities and compare city pairs that are equally far apart but either share a time zone or sit across a time-zone boundary. Empirically, I combine a fixed-effects model, a geographic regression discontinuity design exploiting discontinuous changes in temporal overlap at time-zone boundaries, and a difference-in-differences design leveraging Indiana's 2006 time-zone reclassification.

Across approaches, I find that being in different time zones reduces the likelihood of a citation by 3–7 percentage points. Collaboration results are more mixed: while time-zone distance increases the likelihood of co-patenting, these effects are less stable. Heterogeneity tests suggest the penalty is greater for high-technology domains and smaller for dyads with strong pre-period collaboration.

With this project I aim to contribute to the literature of globally distributed work and understanding how non-obvious frictions shape innovation and offers implications for spatial organization, distributed work, and firms' global R&D strategies.

Innovation Under Resource Constraints: Geopolitics, Export Controls, and the Direction of Innovation (Early-Stage Project)

In this project, I am interested in exploring how policy-driven scarcity of critical technological inputs, e.g., frontier compute and advanced semiconductors, affects innovation dynamics in both constrained markets (e.g., China) and the constraining market (the U.S.).

Motivated by recent U.S. export controls on GPUs and semiconductor technologies, and the

rising significance of geopolitics in the context of innovation, I am interested in studying how research labs and industry incumbents and potential new entrants adapt when access to essential hardware becomes restricted. Questions of interested include whether constraints spur creative recombination or depress R&D, how innovation portfolios shift across compute-intensive versus alternative technological trajectories, and how U.S. innovation responds when foreign competitors face structural constraints.

Potential outcomes of interest include trends in AI model releases, patenting behavior, deep-tech entrepreneurship, and venture capital flows in hardware-dependent sectors.

Dissertation Committee (Preliminary, not yet finalized)

- Dr. Alexander Oettl (Georgia Tech)- Advisor
- Dr. Astrid Marinoni (Georgia Tech)