Application for NBER Digital Economics and AI Tutorial

Ramtin Salamat

To whom it may concern,

I am writing to express my interest in the NBER Digital Economics and AI Tutorial. I am a fourth-year PhD candidate in Managerial Economics and Strategy at the Kellogg School of Management, Northwestern University. My current research agenda focuses on the economics of artificial intelligence, building on my work in mechanism design and contract theory. My dissertation committee consists of Luis Rayo, Piotr Dworczak, Alessandro Pavan, and James Schummer.

Research. In an ongoing project, *Training Your AI Replacement: Severance Pay and Limited Commitment*, my coauthor and I study how firms can induce workers to train AI when doing so may make those workers replaceable. Workers have knowledge and expertise that firms need to improve AI systems, but teaching that knowledge can make AI a stronger substitute for them. Because knowledge transfer itself is difficult to contract on and the firm cannot commit to future employment, workers may withhold useful knowledge even when transferring it would increase total surplus. We ask whether severance pay can solve this hold-up problem by protecting workers against displacement.

Our main result is that severance contracts can solve this problem in a short-horizon setting but may fail once the relationship is dynamic. The key force is that teaching today changes the worker's future bargaining position and can eliminate compensation the worker could otherwise obtain for teaching later. As a result, a worker may rationally preserve knowledge for the future rather than transfer it today. We also characterize when regulatory intervention is needed and show that targeted worker protection can restore efficient knowledge transfer while changing firms' contracting incentives earlier in the relationship. More broadly, the project highlights that worker protection and AI adoption need not be in conflict: appropriately designed protections can encourage workers to share the knowledge firms need to develop and deploy AI productively.

In complementary work, I study how AI regulation should be designed when development and deployment are separate economic decisions. Developers choose how capable to make an AI system and how much to invest in safety, testing, and monitoring, while AI users decide how much authority to delegate to it. These choices can generate substantial gains, but they can also create harms that are borne by workers, customers, other firms, or the public. The project asks how regulation should account for the fact that the parties making these decisions may not bear all of the resulting costs.

A central challenge is that developers typically know much more than regulators about how a system was trained, what safety investments were made, and what risks or failures have been identified. I study whether regulation should operate primarily at the development stage or at the deployment stage, and how auditing can reduce this information gap and change the incentives of developers and users. More broadly, the goal is to understand when private incentives lead to distorted choices of capability, safety investment, and delegation, and how regulation can correct those distortions while preserving the gains from AI adoption.

Research Background and Preparation. My training combines graduate coursework in economics and computer science with an earlier background in engineering. My previous research is grounded in mechanism design, contract theory, and information economics. This work includes *Trial Plans as a Means of Price Discrimination*, published in *Games and Economic Behavior* in 2025, which studies how product trials can screen consumers through differences in their value

for information; *Optimal Mechanisms with Hierarchically Interdependent Values*, under review at *Econometrica*, which studies mechanism design when one agent's private information also affects other agents' values; joint work on *Sequential Inventory Allocation with Incentive Compatibility*, which studies truthful allocation of scarce resources when demand is private and monetary transfers are unavailable; and joint work on *What's on the Menu? Consumption Externalities and Product Quality*, in which we study pricing and product design when positive network externalities create both screening and coordination problems. Together, these projects provide the theoretical foundation for my current work on the economics of AI.

Closing Remarks. The NBER Digital Economics and AI Tutorial is especially timely for me because my research agenda is focused on AI, while my previous work has given me a strong foundation in microeconomic theory. The tutorial would allow me to connect my theoretical work to the rapidly developing literature on AI adoption, organizational change, productivity, and regulation. I would particularly value the opportunity to learn from researchers working at the frontier of these questions, engage with other PhD students working on related topics, and use those insights to shape the next stage of my dissertation research.

Thank you for considering my application.

Sincerely,
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Education

PhD, Kellogg School of Management, Northwestern University, Evanston 2023 - 2028
Major: Managerial Economics and Strategy

Master of Arts, Department of Economics, University of Toronto, Toronto 2021 - 2023
Major: Economics

Master of Science, Teias Institute, Khatam University, Tehran 2018 - 2021
Major: Theoretical Economics

Bachelor of Science, Sharif University of Technology, Tehran 2014 - 2018
Major: Electrical Engineering

Publications

Trial Plans as a Means of Price Discrimination
Games and Economic Behavior, 2025, 153: 679–701. https://doi.org/10.1016/j.geb.2025.08.010

Working Papers

Optimal Mechanisms with Hierarchically Interdependent Values
https://dx.doi.org/10.2139/ssrn.6608939

Work in Progress

Sequential Inventory Allocation with Incentive Compatibility (with Sean Sinclair & Seyed Iravani)

Training Your AI Replacement: Severance Pay and Limited Commitment (with Aidan Goth)

What's on the Menu? Consumption Externalities and Product Quality
(with Sarit Markovich & Luis Rayo)

Regulating Artificial Intelligence under Misalignment

Fellowships and Awards

Northwestern TGS Dissertation Proposal Development Fellowship 2026

Kellogg School of Management Doctoral Fellowship 2023 – present

University of Toronto Fellowship 2021 – 2022

Professional Experience

Cafe Bazaar, Tehran, Iran – Auction & Algorithm Designer Jan. 2021 - Aug. 2021

Tapsi, Tehran, Iran – Economist Intern June 2019 - Sep. 2019

EVTech, Tehran, Iran – Co-founder/Technical Director Sep. 2016 - Jan. 2018