Dear Selection Committee of the NBER Digital Economics and AI Tutorial,

I am writing to apply to participate in the Digital Economics and AI Tutorial for economics graduate students. I am a fourth-year PhD student in the MORS Macro group at UC Berkeley's Haas School of Business. My research examines how generative artificial intelligence affects labor markets, with a particular focus on inequality. Having recently passed my qualifying examination, I believe the NBER tutorial would provide an invaluable opportunity to engage with leading economists studying how technology transforms markets.

My background combines rigorous methodological training in economics with diverse industry experience. Beyond my BA in Economics and Chinese from the University of Maryland, College Park, and MS in Applied Economics from the University of San Francisco, my doctoral coursework has focused on advanced econometrics, experimental design, and causal inference - including an exciting detour into the philosophy department to study causality from a theoretical perspective. This methodological foundation is complemented by my industry experience as a data scientist for over 6 years where I developed and deployed machine learning models. This practical work has given me direct insight into both the technical architecture of AI systems and the real-world challenges of implementing them effectively. The combination of theoretical depth and practical expertise uniquely positions me to analyze AI's economic impact across diverse market contexts, bridging the gap between academic research and industry application.

Having recently successfully defended my dissertation prospectus on (12/12/24), I am now focused on completing my dissertation, which broadly examines how generative AI affects labor markets. In one of my dissertation papers, I leverage ChatGPT's release as a natural experiment to study how AI affects open-source software development. Using a difference-in-differences estimation comparing Python projects (treatment) to Rust projects (control), combined with qualitative analysis of maintainers' code review comments, I find that newcomer contributions face a 20.17 percentage point higher rejection rate following ChatGPT's release. This effect works through increased information asymmetry about effort and expertise, which changes collaboration incentives. In a second paper, I develop a model examining how the adoption of AI tools for job application customization affects labor market diversity. While these tools reduce application costs and thereby potentially increase application pool diversity, my model suggests that a resulting increased screening burden and lower signal quality (since AI homogenizes content) may ultimately prevent this greater diversity from translating into more diverse hiring outcomes. This highlights an important tension between application accessibility and effective screening in AI-mediated labor markets. Together, these papers aim to illuminate how AI shapes matching efficiency and information frictions in digital labor markets. My dissertation is advised by Professors Mathijs De Vaan, Abhishek Nagaraj, and David Holtz from UC Berkeley Haas School of Business and Professor Heather Haveman who has a joint appointment with UC Berkeley Haas and UC Berkeley's Sociology Department.

Prior to focusing on how AI affects labor markets, I was interested in examining frictions in high-skill labor markets. In one project using S&P 1500 data, I challenge the conventional view of internal labor markets' efficiency. While the literature typically finds that internal promotion yields superior outcomes for employee retention, I show this relationship breaks down in high-stakes succession contests. When heirs apparent are passed over for CEO positions, they are significantly more likely to exit the organization - an effect that is dramatically amplified when the position goes to another internal candidate rather than an external hire. This effect has important gender implications: female heirs apparent are both less likely to be promoted to CEO and more likely to exit the organization when passed over, suggesting that succession dynamics may contribute to the persistent underrepresentation of women in top corporate leadership. The findings provide novel evidence on how promotion tournaments and identity affect the retention of high-skill talent, with implications for optimal organizational design and succession planning. In another project with Professors Solène Delecourt (UC Berkeley) and Rem Koning (HBS), we ran an online experiment to study how gender preferences affect talent allocation in high-technology startups. We find that making startup ideas explicitly female-focused reduces male applications by 15 percentage points - equivalent to a $30,000 salary reduction. Using word-embedding models on PitchBook data, we show this leads to female-focused ventures having 25% fewer employees with 30% less experience, driven by male sorting. These findings illuminate how preference heterogeneity affects the direction of innovation.

The NBER Digital Economics and AI Tutorial would be instrumental in advancing my research agenda in several specific ways. First, exposure to cutting-edge methodological approaches for studying AI's economic impact will help refine my empirical strategies. Second, the tutorial's focus on digital economics will inform my ongoing work on information asymmetries in labor markets in a post-GenAI world. Third, engagement with NBER's network of scholars will provide valuable feedback as I work on my dissertation and job market papers. As a participant, I hope to contribute insights about how AI creates information asymmetries that increase evaluation ambiguity, drawing on both my research and industry experience.

Thank you for considering my application. I am committed to being an engaged participant in the NBER Digital Economics and AI Tutorial community and believe the experience would significantly enhance both my scholarly development and ability to contribute to this important field.

Sincerely,
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