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Dear Organizing Committee,

I would like to express my interest in attending the Spring 2026 Digital Economics and AI Tutorial at Stanford. I'm a fifth-year PhD student in Economics at Boston University. Besides the standard sequences of Microeconomics, Macroeconomics, and Econometrics, I have also completed field sequences in Industrial Organization and Economic History. Beyond core coursework at the Economics Department, I have received training in digital economics through Professor Shane Greenstein's Empirical Studies of Innovation at Harvard Business School and Professor Andrey Fradkin's marketing seminar at BU Questrom, from which I gained familiarity with topics on digitization and innovation. I attended the Toronto tutorial in Fall 2023, which provided valuable exposure to the community when I was beginning my research. As I have matured over the past two years both as a researcher and as an individual, I hope to attend the tutorial again to gain new insights into the field, and explore new emerging research directions in digital economics and AI.

My research interests lie in empirical industrial organization. Specifically, I study competition dynamics in digital infrastructure markets. My (potential) job market paper examines whether the spatial distribution of U.S. colocation data centers is socially optimal. My committee members are Professor Marc Rysman, Professor Jihye Jeon, and Professor Andrey Fradkin. Colocation data centers are a subset of data centers that serve as traffic hubs connecting Internet Service Providers (ISPs). On one hand, the entry of data centers is privately driven and could lead to business stealing. On the other hand, ISPs prefer established data centers with many existing connections, creating network effects, potentially leading to multiple equilibria and inefficient geographic concentration. Compounding the business stealing and network effects in a market with imperfect competition, the entry patterns of colocation data centers may deviate from the social optimum. On the demand side, I developed a structural model where ISPs' connection choices and data center popularity are jointly determined in equilibrium. On the supply side, I am modeling the entry and location choice of data centers to uncover the cost parameters. In the counterfactual analysis, I plan to simulate the scenario where the social planner maximizes total surplus by internalizing business stealing effects and network externalities, and to use that as a benchmark to quantify the welfare costs of decentralized entry.

A previous project I've worked on is one joint with my advisor Professor Marc Rysman, in which we investigate the competitive effects of the Level 3 and CenturyLink merger in the internet service market. Using a unique dataset from the Center of Applied Internet Data Analysis (CAIDA), we employ a difference-in-difference methodology to analyze how market connectivity patterns changed post-merger. The preliminary findings indicate that the merged

entity experienced a 26% decrease in customers compared to control firms, with 4% fewer new customer acquisitions—suggesting potential anticompetitive effects despite efficiency claims often made to justify such horizontal mergers.

Thank you for considering my application. I look forward to the possibility of participating in and contributing to the program.

Sincerely,
Chloe Yunjie Song