Digital Economics Meets AI: The Strategic Landscape of the Chatbot Industry

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Application for the NBER Digital Economics and AI Tutorial

Dear Sir or Madam,

I am writing to apply for the tutorial on Digital Economics and Artificial Intelligence to be held on February 12, 2025, at Stanford University. My research interests align closely with the themes of the tutorial, particularly in the area of brand proliferation in the AI-powered chatbot industry, which I have been exploring in my graduate studies.

Educational Background:

I am currently in my third year of the Ph.D. program at the University of California, Los Angeles (UCLA), having completed two years of graduate coursework as of June this year. My academic journey has been dedicated to understanding the dynamics of digital markets, with a focus on large language model (LLM) services and their impact on market structure and consumer welfare. Throughout my coursework, I have taken a series of rigorous and relevant classes that have prepared me for my research on digital economics and AI. My performance in these courses has been consistently strong, with a cumulative GPA of 3.9 as of Fall Quarter 2024.

In addition to my core coursework, I have engaged in advanced econometrics, which has equipped me with the quantitative skills necessary for rigorous economic analysis. I have also explored topics in industrial organization, which are quite helpful to understanding the competitive landscape of the AI chatbot industry.

My commitment to academic excellence is further evidenced by my successful completion of the Qualifying Oral Exam and being Advanced to Candidacy in

September 2024. This solid foundation in economic theory, econometrics, and industrial organization has prepared me to contribute meaningfully to the NBER tutorial and to engage in cutting-edge research on the intersection of digital economics and artificial intelligence.

Research Interests and Projects:

My research interests are centered on the mobile app market for LLM services, where I have found an intriguing phenomenon: the presence of numerous small competitors that essentially repackage the same OpenAI engine, under different user interfaces and pricing schemes. This observation has led me to question why OpenAI allows such imitation and the implications for market power and consumer welfare. My main project delves into these questions, examining the strategic decisions of OpenAI and the broader implications for competition in the app market. My committee members include John Asker, Michael Rubens, and Will Rafey.

Contribution and Expectations:

I believe that my participation in the NBER tutorial will significantly enhance my ability to model the horizontal and vertical structure of the AI chatbot industry. I am particularly interested in exploring the effects of potential regulations on market entry and consumer surplus. The opportunity to engage with research leaders and fellow participants will provide invaluable insights that I can incorporate into my ongoing research.

Financial Assistance:

Given the importance of this research and its alignment with the tutorial's themes, I am in need of financial assistance to cover a part of my hotel costs during the tutorial. I will be responsible for covering my own travel expenses.

I am looking forward to the opportunity to participate in this prestigious event and to further my academic and professional development in the field of digital economics and AI.

Thank you for considering my application.

Sincerely,
Hongyu Mou