**NBER Digital Economics and AI Tutorial Application - Doron Yeverechyahu**

## Contact Information:

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## Graduate Studies

I am currently a fourth-year PhD student in the Information Systems program at the Coller School of Management, Tel Aviv University, under the supervision of Prof. Gal Oestreicher-Singer. In this program, I have completed two years of coursework, which included:

- Information Systems PhD Seminar
- Quantitative PhD Seminar
- Behavioral PhD Seminar

Prior to my doctoral studies, I earned a master's degree in Economics (magna cum laude) from Tel Aviv University in a joint program with the Hebrew University of Jerusalem. The coursework in the master's program is equivalent to PhD-level coursework. My studies included core courses in Microeconomic Theory**,** Game Theory**,** Macroeconomic Theory**,** and Econometrics**.** Additionally, I deepened my expertise in microeconomic theory and econometrics through electives such as Mechanism Design**,** Market Design**,** Industrial Organization**,** Machine Learning**,** and Economic History**.**

To further enhance my academic training, I attended PhD-level summer schools in economics, including:

- University of Oxford**:** Machine Learning and Econometrics
- Barcelona School of Economics (BSE)**:** Economics of Platforms and Economics of AI

## PhD

**Dissertation Title:** AI at the Crossroads: Navigating Innovation and Perception in the Era of Generative AI

**Advisor**: Prof. Gal Oestreicher Singer

## Research Interests:

My research focuses on the economics of technology, with a particular emphasis on the economic impacts of artificial intelligence (AI) on content creation and consumption. In my dissertation, I examine the effects of Generative Artificial Intelligence (GenAI) on economic behaviors from two perspectives. On the supply side, I explore how GenAI fosters innovation and contributions within

open-source programming environments. On the demand side, I investigate how consumers respond to suppliers' disclosure of GenAI adoption, particularly in the context of gig economy platforms, analyzing the influence of AI integration on consumer perceptions and behaviors.

These research interests align closely with the themes of the NBER Digital Economics and AI Tutorial. Participating in this workshop would not only support my research but also provide a valuable opportunity to learn from and connect with top academics in the field as well as other PhD students with closely related research interests.

**Project 1: The impact of Large Language Models on open-source software innovation: Evidence from GitHub Copilot (joint with Raveesh Mayya and Gal Oestreicher Singer)**

Open Innovation, specifically in the realm of open-source software, depends on the voluntary contribution of subject matter experts who contribute their time and effort to improve both the quantitative and qualitative aspects of open-source projects. While extant research investigating the impact of Large Language Models (LLM) on programming productivity has noted LLMs enhance employees' productivity (i.e., employees using LLMs complete more tasks), it is unclear whether LLMs affect voluntary contributions in a community setting. Especially since innovation in the open-source communities depends on self-motivated contributors with above-average expertise in programming, the impact of programming helper LLM in an open empirical question. We study this question in the context of GitHub Copilot, a programming focused LLM launched in October 2021. GitHub copilot supported languages like Python while omitting support for languages like R. We exploit this natural experiment to empirically identify the impact of LLMs on project innovation (measured by the number of new updates released), contribution count (measured by the number of commits by users to a given project) and contributor mobility across communities (projects). By employing classical TWFE with matching, as well as modern estimation techniques, such as synthetic DiD, we uncover some interesting results. The count of new updates for a Python package goes up significantly compared to its matched R package. Not surprisingly, this is driven by an increase in the number of commits per contributor. Interestingly, a larger proportion of increase comes from bug-fixes rather than new features, suggesting that LLMs affect contributors' motivations to solve time-critical yet incremental problems via bug fixes more than they affect their motivations to solve architectural problems via new features. The individual contributor level analysis provides more interesting insights. The count of packages to which an existing contributor contributes significantly goes up, showing that GitHub copilot improves the mobility of voluntary contributors. Overall, our findings highlight that programming-focused LLMs have the potential to foster more innovation in a community setting with potentially higher knowledge spillover across projects.

**Project 2: The AI Pricing Paradox: The Effect of Algorithmic Pricing Disclosure on Consumers' Demand (Joint with Gal Oestreicher Singer)**

Digital platforms are increasingly developing and offering novel AI-based tools, such as algorithmic pricing, to support suppliers' business performance. While recent literature finds that

such tools indeed provide supply-side benefits, the general concern over potential adverse effects of AI, such as discrimination and manipulation, has ignited a debate about the necessity of AI usage disclosure policies. In this work we shift the focus to the demand-side implications of AI transparency in digital platforms and ask how consumers respond to algorithmic-pricing disclosure.

Specifically, we ask the following questions: First, how do consumers perceive algorithmic pricing? Second, how does disclosure of algorithmic pricing affect demand? To address our first research question, we conduct a survey (n = 189) that reveals that, in general, consumers perceive AI-generated prices as being lower and fairer compared with human-generated prices. To address our second research question, we run a randomized choice experiment in which consumers (n = 900) can choose services that are randomly identified as having been priced by AI or by humans. We find that consumers are 6%–16% less likely to choose vendors whose prices are said to have been set by AI (vs. by humans). Together, these results suggest an AI pricing transparency paradox: while consumers perceive AI pricing tools positively, disclosing the use of such tools reduces demand.

Our work carries theoretical and managerial contributions, as well as policy implications. With the growing debate over AI regulation, specifically regarding usage transparency, it is essential that we fully understand how AI usage disclosure policies affect consumers' behavior. Such an understanding is particularly important given platforms' significant investments in AI tools, which have been shown to improve suppliers' performance.