Application – Digital Economics and AI Tutorial

Incentive Misalignment in the Attention Economy: Platforms, Users, and Welfare

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I am a PhD Candidate in Information Science at Cornell University with a minor in Economics, and an IvyPlus Scholar at the Department of Economics at Stanford. I began my PhD in Fall 2023 and have completed advanced graduate coursework in digital economics, industrial organization, econometrics, and AI-related research methods. My research focuses on digital platforms and online user behavior, with particular interest in algorithmic personalization, recommender systems, and the consequences of such algorithms for user welfare. I study how large language models reshape information search, how engagement-based recommender systems interact with user vulnerabilities, and how privacy/AI regulation affects competition and innovation in digital markets.

The Digital Economics and AI Tutorial would be extremely valuable as I enter the main research phase of my dissertation. My agenda aligns directly with the tutorial's focus on AI, digital markets, and the economic implications of new information technologies. Attending would help me refine the theoretical framing of my projects, gather feedback from leading scholars, and connect my work to the broader NBER community.

Research Projects

The Internet Behavior Experiment (IBE) together with Professor Alessandro Acquisti (MIT Sloan) and Professor Cristobal Cheyre (Cornell University), we are conducting a large-scale online experiment that collect online user behavior of 1,200 participants in the US. Our experimental design allows us to create a comprehensive platform to study user behavior, including

- randomly changing users' exposure to targeted and contextual advertising
- collecting the content of e-commerce platforms that participants visit
- collecting the conversations between them and any LLM chatbot (e.g., ChatGPT, Gemini, Claude, etc.)

Data from the IBE serves as input for two main projects in my agenda.

1. **Advertising and the Cost of Search** (with Cristobal Cheyre and Alessandro Acquisti) we study how exposure to targeted and contextual advertising influences purchase choices and search patterns. We leverage our experimental conditions to estimate the cost of advertising in terms of (i) budget expenditure and (ii) search times.
2. **Searching in LLMs** (with Samira Gholami, Cristobal Cheyre, and Alessandro Acquisti) we study how individuals might substitute or complement their traditional search tools (search

engines) with prompts to LLM chat bots. We observe how individuals switch between the two tools within the same browsing session and the overlap in the prompts to the two platforms.

The Cursed Equilibrium of Algorithmic Traumatization A dynamic model of engagement-driven platforms interacting with myopic and vulnerable users, combined with empirical evidence on exposure to harmful content in real online environments. I develop a behavioral economics model explaining online over-engagement with content categories which trigger negative emotions and reinforce obsessions. The model predicts users' disengagement leading platforms to profit losses. I am currently conducting an online study to collect recommendations shown to Cornell University students, and expand the study to an online experiment.

Dissertation

Provisional Dissertation Title:
Incentive Misalignment in the Attention Economy: Algorithms, Platforms and Users

Committee:

- Cristobal Cheyre, Cornell University (chair)
- Alessandro Acquisti, MIT Sloan
- Allison Koenecke, Cornell University
- Ted O'Donoghue, Cornell University

Taken together, the dissertation will combine (i) large-scale experimental evidence on how advertising and LLMs shape search behavior and the allocation of attention, (ii) fine-grained digital trace data from the Internet Behavior Experiment capturing real-time interactions with platforms and algorithms, and (iii) a behavioral model of algorithmic misalignment and over-engagement among vulnerable users. Each chapter connects back to the core dissertation theme of incentive misalignment in the attention economy, providing complementary theoretical and empirical perspectives on how platform optimization affects user welfare and market outcomes.