Guy Aridor

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Education

Ph.D. Economics, Columbia University, 2016-2022 (expected)

B.A. Computer Science, Pure/Applied Mathematics, Economics, Boston University, 2014
Honors in Economics, summa cum laude

Fields of Specialization

Industrial Organization, Economics of Digitization, Behavioral/Experimental Economics

Job Market Paper

Drivers of Digital Attention: Evidence from a Social Media Experiment, Draft

Abstract: I study demand for social media services by conducting an experiment where I comprehensively monitor how participants spend time on digital services. I shut off access to Instagram or YouTube on their mobile phones and investigate how participants substitute their time allocations during and after the restrictions. During the restriction period I observe substitution towards a wide range of alternatives including across product categories and off digital devices and relate these findings to market definition in attention markets. Participants with the Instagram restriction had their average daily Instagram usage decline after the restrictions are lifted. Participants with the YouTube restriction spent more time on applications installed during the restriction period both during and after the restriction period. Motivated by these results, I estimate a discrete choice model of time usage with inertia and find that inertia explains a large portion of the usage on these applications. I apply the estimates to conduct merger evaluation between prominent social media applications using an Upward Pricing Pressure Test for attention markets. I find that inertia plays an important role in justifying blocking mergers between the largest and smallest applications, indicating that digital addiction issues are important from an antitrust perspective. Overall, my results highlight the usefulness of product unavailability experiments in analysis of mergers between digital goods.

Working Papers

1. The Effect of Privacy Regulation on the Data Industry: Empirical Evidence from GDPR, Draft
   (w/ Yeon-Koo Che, Tobias Salz)

   Revision Requested, RAND Journal of Economics

   Abstract at ACM EC'21

   Short Abstract: We use novel data from the online travel industry to characterize the causal impact of GDPR on the data that firms can collect as well as their advertising revenues and ability to predict consumer behavior.

2. Competing Bandits: The Perils of Exploration under Competition, Draft (Submitted)
   (w/ Yishay Mansour, Alex Slivkins, Steven Wu)

   An earlier version *The Perils of Exploration under Competition: A Computational Modeling Approach* (w/ Kevin Liu, Alex Slivkins, Steven Wu) was at ACM EC '19

   Short Abstract: We study the tension between exploration and competition and ask whether competition incentivizes the adoption of better exploration algorithms.

3. Recommenders' Originals: The Welfare Effects of the Dual Role of Platforms as Producers and Recommender Systems, Draft (w/ Duarte Gonçalves)

   Revision Requested, International Journal of Industrial Organization

   Short Abstract: We characterize the equilibrium effects of the increased tendency for online platforms to both produce their own content and utilize recommender systems.

4. Adaptive Efficient Coding: A Variational Autoencoder Approach, Draft
   (w/ Francesco Grechi, Michael Woodford)

   Short Abstract: We study a model of neural coding that is based on the structure of a variational auto-encoder.

Refereed Conference Proceedings

5. Deconstructing the Filter Bubble: User Decision-Making and Recommender Systems
   (w/ Duarte Gonçalves, Shan Sikdar)
   14th ACM Conference on Recommender Systems 2020 (RecSys '20), Proceedings Link

   Short Abstract: We study a model of user decision making in the context of recommender systems. We show that user beliefs and risk-aversion levels are important for rationalizing existing empirical evidence and emphasize the usefulness of belief data in recommender system design and evaluation.

Works In Progress

6. The Value of Recommender Systems: Decomposing the Informational and Discovery Gains
   (w/ Duarte Gonçalves, Ruoyan Kong, Daniel Kluver, Joseph Konstan)

   Data collection completed, Pre-Registration Link

   Short Abstract: We conduct a longitudinal field experiment on the movie recommendation platform MovieLens where we randomize the set of recommended movies and elicit beliefs about unseen movies. We use the data to decompose the influence that recommender systems have on consumption choices in terms of their informational and product discovery value.

7. Shopping Alone: The Impact of The Decline of the American Mall
   (w/ Louise Guillouet, Howard Zhang)

Presentations

The Effect of Privacy Regulation on the Data Industry: Empirical Evidence from GDPR

    Statistical Methods for Computational Advertising, October 2021, BIRS / Online

    ACM Conference on Economics and Computation, July 2021, Budapest / Online

    FTC PrivacyCon, July 2020, Online

    Big Tech & Antitrust - Competition Policy in the Digital Age, October 2020, Yale Law / Online

    International Industrial Organization Conference, March 2020, Drexel / *cancelled due to COVID-19*

Competing Bandits: The Perils of Exploration under Competition

    INFORMS Annual Meeting, October 2021, Anaheim / Online

    MIT Conference on Digital Experimentation, November 2020, Online

    ACM Conference on Economics and Computation, June 2019, Phoenix

    ACM EC Workshop on ML and Strategic Behavior, June 2019, Phoenix (Poster / Lightning Talk)

Drivers of Digital Attention: Evidence from a Social Media Experiment

    MIT Conference on Digital Experimentation, November 2021, Online

    International Conference on Computational Social Science, July 2021, ETH Zurich / Online

Deconstructing the Filter Bubble: User Decision-Making and Recommender Systems

    ACM Conference on Recommender Systems, September 2020, Online

    ICML Workshop on Participatory Approaches to Machine Learning, July 2020, Online (Poster)

Recommenders' Originals: Welfare Effects of the Dual Role of Platforms as Producers and RecSys

    World Congress of Game Theory, July 2021, Budapest / Online

    Young Economists Symposium, August 2019, Columbia University

Research Grants and Fellowships

Program for Economic Research Award for Field or Experimental Research, Columbia University, 2021
    Amount: $19,625.00

Program for Economic Research Summer Fellowship, Columbia University, 2018,2020

College Prize for Excellence in Economics, Boston University, 2014

Hariri Institute for Computing Summer Research Award, Boston University, 2013

Tuition Exchange Scholarship, Boston University, 2010-2014

Research Assistant

Yeon-Koo Che (Columbia University, Economics), Fall 2019-Fall 2020

Tobias Salz (Columbia University, Economics), Summer, Fall 2018

Michael Woodford (Columbia University, Economics), Summer 2017

Henry Lam (Boston University, Mathematics), Summer 2013

Robert King (Boston University, Economics), Summer 2012

Invited Summer School / Instructional Workshops

NBER Economics of Digitization Tutorial, 2021

NBER Young Scholars Workshop on the Economics of Artificial Intelligence, 2018

Summer School on Cognitive Foundations of Economic Behavior, 2018

Teaching Experience

"Data TA" - help honors thesis students with programming and econometrics (Spring 2018, 2020)

Teaching Assistant for Introduction to Econometrics for Simon Lee (Spring 2019)

Teaching Assistant for Economic Growth and Development for Xavier Sala-i-Martin (Fall 2017)

Work Experience

Software Engineer at HubSpot, 2015-2016

Software Engineer at Nutonian, 2014-2015

Co-founder at RequestNow, 2012-2014

Received initial funding from Rough Draft Ventures

Miscellaneous

Nationality: Israel, United States

Programming Languages: Julia, Python, JavaScript, Java, C++, SQL, R, MATLAB, STATA

Human Languages: English (native), Hebrew (intermediate), Spanish (beginner)

Open-Source Software: PlanOut.js, react-experiments, Scientist4J ($\sim$ 1 million total downloads)

Other Awards: BattleHack Boston Winner / 3rd Place World Finals, 2014

References

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