Bar Light

National University of Singapore
barlight@nus.edu.sg
November 2024

Positions

- Assistant Professor (Presidential Young Professor), Department of Analytics and Operations, National University of Singapore, 2024-

  Affiliated Faculty, Institute of Operations Research and Analytics, National University of Singapore, 2024-

- Assistant Professor, Department of Statistics and Operations Research, Tel Aviv University, 2023-2024

- Postdoctoral Researcher, Microsoft Research NYC, 2021-2023

Education

- PhD, Operations Research, Stanford University, 2021
  Advisors: Gabriel Y. Weintraub and Ramesh Johari

- MSc, Operations Research, Tel Aviv University, 2016
  Advisor: Ehud Lehrer

- BA and MA, Economics, Tel Aviv University, 2015

Publications and Accepted Papers

1. Quality selection in two-sided markets: A constrained price discrimination approach (with Ramesh Johari and Gabriel Weintraub). *Operations Research*, 2024.

2. A Note on the Stability of Monotone Markov Chains. *Operations Research Letters*, 2024.

3. The Principle of Optimality in Dynamic Programming: A Pedagogical Note. *Operations Research Letters*, 2024.

4. General equilibrium in a heterogeneous-agent incomplete-market economy with many consumption goods and a risk-free bond. *Operations Research*, 2023.

5. Improving Hoeffding's inequality using higher moments information. *Statistics & Probability Letters*, 2023.

6. Mean field equilibrium: uniqueness, existence and comparative statics (with Gabriel Weintraub). *Operations Research*, 2022.
   Appeared in Highlights Beyond EC 2022.

7. New Jensen-type inequalities and their applications. *Journal of Convex Analysis*, 2022.

8. Stochastic comparative statics in Markov decision processes. *Mathematics of Operations Research*, 2021.

9. The family of alpha,[a,b] stochastic orders: risk vs. expected value (with Andres Perlroth). *Journal of Mathematical Economics*, 2021.

10. Uniqueness of equilibrium in a Bewley-Aiyagari model. *Economic Theory*, 2020.

11. Precautionary saving in a Markovian earnings environment. *Review of Economic Dynamics*, 2018.

12. The effect of interest rates on consumption in an income fluctuation problem (with Ehud Lehrer). *Journal of Economic Dynamics and Control*, 2018.

Working Papers

1. Dynamic Benchmarks in Non-Stationary Multi-Agent Environments (with Ludovico Crippa and Yonatan Gur).

2. Budget Pacing in Repeated Auctions: Regret and Efficiency without Convergence (with Jason Gaitonde, Yingkai Li, Brendan Lucier, and Aleksandrs Slivkins).
   A preliminary version published in the Conference on Innovations in Theoretical Computer Science (ITCS), 2023.

3. Social Learning under Platform Influence: Consensus and Persistent Disagreement (with Jerry Anunrojwong, Ozan Candogan, and Nicole Immorlica).

4. A Characterization of the n-th Degree Bounded Stochastic Dominance (with Andres Perlroth).

5. Invariant Distributions in Nonlinear Markov Chains with an Aggregator: Theory and Applications.

Lecture Notes

- A Course in Dynamic Optimization.

Grants, Fellowships, & Awards

- NUS Presidential Young Professorship (2024-2029)

- Israel Science Foundation (ISF) Grant (2023-2027, discontinued in 2024)

- Graduate School Fellowship, Stanford University, 2016-2021

- Jaedicke Merit Award, Stanford University, 2017

Teaching Experience

Instructor

National University of Singapore

- Topics in Online Marketplaces (PhD mini course): 2024

Tel Aviv University

- Dynamic Optimization (MSc): 2024

Teaching Assistant

Stanford University

- Data Science for Platforms (MBA): 2019, teaching assistant for Ramesh Johari and Gabriel Weintraub

- Online Marketplaces (MBA): 2018-2019, teaching assistant for Gabriel Weintraub

- Optimization Simulation and Modeling (MBA): 2018, teaching assistant for Kostas Bimpikis and Daniela Saban

Tel Aviv University

- Intermediate Microeconomics (Undergraduate): 2014-2016, teaching assistant for Ady Pauzner

Interdisciplinary Center Herzliya (IDC)

- Intermediate Microeconomics (Undergraduate): 2014-2015, teaching assistant for Nadav Levy

- Game Theory (Graduate): Fall 2015, teaching assistant for Ady Pauzner

Presentations

- 2024: Hebrew University, University of Haifa, INFORMS Annual Meeting, Junior Workshop on Mathematical Game Theory Roma,

- 2023: 33rd Annual POMS-Conference, National University of Singapore, Singapore Management University

- 2022: Annual Conference on Networks Science and Economics, ACM Conference on Economics and Computation (Highlights Beyond EC Plenary Session), Annual Society for the Advancement of Economic Theory Conference, Stanford Alumni Conference, Google Research Mountain View

- 2021: Chicago Booth, Columbia DRO, Cornell ORIE, MIT Sloan, Microsoft Research, Purdue, Technion IE&M, Tel Aviv Coller, USC Marshall, INFORMS Annual Meeting

- 2020: Berkeley Haas, Columbia DRO, National University of Singapore, Tel Aviv OR, Inter-University Colloquium on Analytical Research, INFORMS Annual Meeting, Kellog-Wharton Workshop

- 2019: INFORMS RMP, INFORMS Annual Meeting, YoungEC Workshop

- 2018: INFORMS Annual Meeting

Reviewer For Journals

- Operations Research, Management Science, Mathematics of Operations Research, Operations Research Letters.

- Econometrica, The Review of Economic Studies, Journal of Economic Theory, Quantitative Economics, Journal of Mathematical Economics.