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Education

Ph.D., Economics, Massachusetts Institute of Technology (M.I.T.), 2015 – 2021 (expected)
Major: Finance, Macroeconomics, Applied Microeconomics, Theory, Quantitative methods
Thesis committee: Prof. Daron Acemoglu, Prof. Ricardo Caballero, Prof. Leonid Kogan, Prof. Andrey Malenko

Ph.D., EECS, University of Michigan, 2013
Major: Stochastic control, Information theory, Statistics

M.Sc., Math, (stochastics and optimization), **University of Michigan,** 2012

M.Sc., OR, (EE systems) **University of Michigan,** 2011

Awards

Neekeyfar Fund Award, Office of the Dean for Graduate Education, M.I.T., 2018

Hand Foundation M.I.T. Doctoral Fellowship, 2015

Richard and Eleanor Towner Prize for Distinguished Academic Achievement
(college of engineering wide), 2013.¹

Outstanding PhD Thesis Award, Springer Outstanding PhD Thesis award (university wide), 2013.²

University of Michigan Doctoral Fellowship, 2008

Ranked second (university level) in National math Olympiad, 2006.

Silver medal (highschool level) in National math Olympiad, 2003.

Teaching Experience

@ MIT Economics

15.456: Asset Pricing (TA, 2020)

14.01: Principles of Microeconomics (TA, 2018, 19)

14.281: Contract theory (TA, 2017)

14.12: Game theory (TA, 2017)

14.16: Strategy and Information (TA: 2020)

15.455: Advanced Financial Engineering (computational methods in finance)(TA, 2018, 2019, 2020)

@ UMich EECS

501: Stochastic Process (TA, 2012, 13)

558: Stochastic Control (TA, 2012)

¹The award in the University of Michigan is given to the outstanding graduate student (college of engineering wide) for outstanding participation in research, leadership and academic performance.

²The best of the best: Internationally top-ranked research institutes select their best thesis annually for publication in this series, for details see [<http://www.springer.com/series/8790>].

Relevant Position

Research Assistant to Prof. Daron Acemoglu 2015-2018

Research Assistant to Prof. Ali Jadbabaie and Prof. Asu Ozdaglar 2013-2015

Book

Resource Allocation in Decentralized Systems with Strategic Agents: An Implementation Theory Approach, Springer, (2014)

Springer Outstanding PhD Thesis award.

Winner of the Richard and Eleanor Towner Prize.

Keywords: Full Nash Implementation, Wallrasian equilibrium, Lindahl equilibrium, Budget balance on and off equilibrium, Individual rationality, Complex Networks, Mechanism-Market design.

Book Chapter

Power Allocation, Spectrum Sharing, and Revenue Maximization in Networks:

An Implementation Theory Approach. (with A. Nayyar, S. Sharma and D. Tenekeztzis)

Chapter 5 in *Mechanisms and Games for Dynamic Spectrum Allocation*.

Editors: T. Alpcan, H. Boche, M. Honig, H. Vincent Poor, **Cambridge University Press**, 2014.

Papers by Topic

Financial intermediation, Data analytics, Banking, Covid-19

- **Information Choice and Amplification of Financial Crises**

(with T. Ahnert)

Review of Financial Studies (RFS), vol 30, no. 6, 2018.

- **The Effect of Liquidity Regulation on U.S. Bank Risk-Taking: Evidence from Non-Performing Loans and CDS Spreads**

(with J. Bosshardt), Working paper

- **Liquidity Regulation, Bank Complexity and Policy: GFC vs COVID-19 Crisis**

(with J. Bosshardt), Working paper

- **Why did Firms Draw Down their Credit Lines during the COVID-19 Shutdown?**

(with J. Bosshardt), Working paper

Corporate governance, Trading

- **Advising the Management**

(with U. Loginova, A. Malenko, N. Malenko)

Review of Financial Studies (RFS), Revise and Resubmit

- **Managerial Protections, Capital Requirements, and Bank Lending**

(with J. Bosshardt), Working paper

- **Two dimensional communication technologies in social networks: Welfare Analysis**
(with U. Loginova), Under review

Dynamic Pricing, Revenue Management

- **Dynamic R&D Contracting**
(with K. Li), Under review
- **Optimal Contracting in Networks**
(with A. Jadbabaie)
Journal of Economic Theory (JET)
vol 183, no. 11, 2019.
- **Dynamic Pricing in Social Networks: The Word of Mouth Effect**
(with A. Ajortlou, A. Jadbabaie)
Management Science (MS)
vol 64, no. 2, 2018.
- **Market Power and Asymmetric Learning in Product Markets**
(with G. Lanzani), Under review

OTC markets, Dynamic trading, Market Microstructure

- **Liquidity, Welfare and Transparency in Dynamic OTC markets**
(with F. Song) Working paper
- **Speed Competition and Segmentation in Illiquid Markets**
(with O. Celebi and K. Li), Working paper
- **Dynamic Price Discovery: Transparency vs. Information design**
(with F. Song)
Games and Economic Behavior (GEB)
vol 122, no. 7, 2020.

Electricity market, Energy finance, Renewable energy

- **Competition in Electricity Markets with Renewable Energy Sources**
(with Daron Acemoglu, Asu Ozdaglar)
The Energy Journal (invited) (EJ)
vol 38, no. SI1, 2018.
- **Selling Wind**
(with I. Schneider, Asu Ozdaglar)
The Energy Journal (EJ)
vol 40, no. 3, 2019.

Shannon capacity, Information theory, Entropy cost

- **Tight Bounds On the Redundancy of Huffman codes**

(with S. Mohajer, P. Pakzad)

IEEE Transactions on Information Theory (IT)

vol. 58, no. 11, 2012.

- **Anti-Uniform Huffman Codes**

(with S. Mohajer)

IET Communications

vol. 5, no. 11, 2011.

Mechanism-Market design, Network control, Auctions

- **An Efficient Game Form for Unicast Service Provisioning**

(with D. Teneketzis)

IEEE Transactions on Automatic Control (TAC)

vol. 57, no. 2, 2012.

- **Power Allocation and Spectrum Sharing with Strategic Users**

(with D. Teneketzis)

IEEE Transactions on Automatic Control (TAC)

vol. 57, no. 5, 2012.

- **An Efficient Game Form for Multi-rate Multicast Service Provisioning**

(with with D. Teneketzis)

IEEE Journal on Selected Areas in Communications (JSAC)

vol. 30, no. 11, 2012.

- **Pay-to-bid auctions: to bid or not to bid**

Operation Research Letter (ORL)

vol. 41, no 5, 2014.

Discrete optimization, Probabilistic methods

- **On Describing the Routing Capacity Regions of Networks**

(with S. M. Yazdi)

Mathematical Methods of Operations Research (MMOR)

vol. 72, no. 1, 2012.

- **On the construction of prefix-free and fix-free codes**

(with M. Zadimoghaddam)

Discrete Applied Mathematics (DAM)

vol. 159, no. 9, 2011.