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## Research Interests

Social choice theory, applied probability, statistics, mathematical models for social science, computational social science, political theory

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## Education

- Sep.19-Aug.23 **Massachusetts Institute Technology (MIT)**  
Ph.D. in Social and Engineering Systems and Statistics  
*Advisor:* Ali Jadbabaie  
*Committee:* Munther Dahleh, Ariel Procaccia, Adam Berinsky, Eric Beerbohm  
*Thesis:* Diversity and Expertise in Representative Governance  
*Job Market Paper:* In Defense of *Liquid Democracy, Theory and Practice* (major revision at Management Science) with Halpern, Halpern, Mossel, Procaccia, Jadbabaie (reach out for access)
- Sep.22-Aug.23 **Harvard Kennedy School**  
Doctoral Democracy Fellow  
*Focus Area:* Political Philosophy
- Sep.17-Jun.19 **Massachusetts Institute Technology (MIT)**  
MSc in Technology and Policy  
*Advisors:* Munther Dahleh, Ali Jadbabaie, Dean Eckles, Adam Berinsky  
*Thesis:* The effects of native advertisement on the US news industry
- Sep.15-Jun.17 **École Centrale Paris**  
BSc of Engineering & Diplôme d'ingénieur (MSc. equivalent) in Applied Mathematics  
*Focus Area:* Mathematics (fundamental and applied), Algorithms & Programming, Machine Learning, Physics

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## Awards

- 2022 **Harvard Kennedy School Democracy Fellowship** - Reward students leading democratic innovations
- 2021 **Best Research Pitch** - Selected best pitch talk at the Virtual Conference on Computational Audiology
- 2019 **Hammer Fellowship** - Award that empowers first-year IDSS PhD students
- 2019 **Best Masters Thesis Nominee** - One of four finalists for the best thesis award in Technology & Policy
- 2017 **Centrale Talent** - Reward outstanding initiatives and achievements of a student at École Centrale Paris

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## Invited Speaker (selection)

- **Computer Science Speaker Series (Brown University)** [Talk](#): Mathematical Models for Democracy - Nov.23 ([link](#))
- **Political Science class (University of Neuchâtel)** [Talk](#): AI & Democracy - Oct.23
- **Scholars Speaker Series (Harvard Law School)** [Talk](#): Democratic Platform Design - Oct.23
- **Spread of Misinformation and Collective Action (MIT IDSS Celebration)** [Talk](#): The Institutional Design Problem - Apr.23 ([link](#))
- **Harvard Department of Mathematics** *The Mathematics of Democracy* - Mar.23 ([link](#))
- **Entretiens de New York (French Consulate)** *Garry Kasparov and Hubert Vedrine interview* - Mar.23 ([link](#))
- **Metagov Seminar** *Liquid Democracy in Practice* - Feb.23 ([link](#))
- **International Workshop on Reimagining Democracy 2022 (Harvard)** *How to Open Democratic Representation* - Dec.22 ([link](#))
- **Computational Social Choice Seminar** *Democratic Innovations and Social Choice* - Nov.22 ([link](#))

- **GoogleX Alphabet Modeling Seminar** *Modeling Democratic Innovations* - Nov.22
- **University of Amsterdam** *Innovating with Democratic Representation* - Oct.22
- **Datascientest** *Data and Models to Study Alternative Voting Systems* - Sept.22 ([link](#))
- **HEC Paris** *Innovating with Democratic Representation* - Sept.22
- **Brain & Cognitive Science Speaker Series (MIT)** *Liquid Democracy* - Apr.22
- **bluenove** *Liquid Democracy and Collective Intelligence* - Apr.22
- **Hypermind** *Liquid Democracy and Collective Intelligence* - Mar.22
- **University of Groningen** *In Defense of Liquid Democracy* - Mar.22
- **Debating Europe Think Tank** *What should democracy look like in the 21st century?* - Feb.22 ([link](#))
- **MIT Sloan Fellows Speaker Series** *Collective Intelligence: Applications to Democracy* - Dec.21
- **WiDS 2020** *Data weaponized, data scrutinized: a war on information*, May20
- **French ENT annual congress** *Will expert systems displace clinical intuition?* - May.17 ([link](#))

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## Research Experience

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Sep.23-Now	<b>Harvard Law School - Berkman Klein Center</b> Employee Postdoctoral Fellow
Sep.17-Aug.23	<b>MIT - Institute for Data, Systems, and Society</b> Researcher in Computational Social Science
Aug.22-Jul.23	<b>Harvard Kennedy School - Ash Center for Democratic Innovations</b> Doctoral Democracy Fellow
May.-Aug.18	<b>Center for Strategic and International Studies</b> Policy Research Intern
Jun.-Aug.17	<b>Nokia Bell Labs</b> Machine Learning Research Intern

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## Publications (Pr: applied probability, E: empirical studies, PP: political philosophy)

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### Journal Papers

- [PP] How to Open Democratic Representation? Revel, **European Journal of Risk Regulation, Cambridge University Press**, 2023
- [E] *Varieties of Resonance: The Subjective Interpretations and Utilizations of Media Output in France*, Park, Abecassis, Revel - **Poetics**, 2021
- [E] Online discussions about tinnitus: What can we learn from natural language processing of Reddit posts?, Manchaiah, Londero, Deshpande, Revel, Palacios, Boyd and Ratinaud - **American Journal of Audiology**, 2022

### Conference Papers

- [Pr] *In Defense of Liquid Democracy, (alphabetical order)* Halpern, Halpern, Jadbabaie, Mossel, Procaccia, Revel, **Proceedings of Economics and Computation EC 23**, 2023
- [Pr] How Many Representatives Do We Need? The Optimal Size of an Epistemic Congress, Revel\*, Lin\*, Haleprn\*, **Proceedings of 36th AAAI Conference on Artificial Intelligence**, 2022
- [E] *Liquid Democracy in Practice: An Empirical Analysis of its Performance*, Revel, Haleprn, Berinsky, Jadbabaie, **Equity and Access in Algorithms, Mechanisms, and Optimization**, 2022

### Preprints (under review)

- [Pr+E] *In Defense of Liquid Democracy, Theory and Practice* (major revision at Management Science) with Halpern, Halpern, Mossel, Procaccia, Jadbabaie
- [Pr] *Selection Representative Bodies: An Axiomatic View* (under review, [link](#)), with Bohemer, Brill, Colley, Elkind, Faliszewski

- [E] *Native advertisement and the credibility of online publishers* (under review, [link](#)) with Tohidi, Eckles, Berinsky, Jadbabaie

## Expository Writing

- *Foundry: Think global, act local.* ([link](#)) with Papaemmanuel - **Palantir Blog**, Dec.2022
- *Rules of Thumb: Adjusting Class Schedules in Fall Term '20* ([link](#)) with Haupt - **MIT ISOLAT**, Aug.2020
- *A privacy-preserving opt-out mechanism for returning to campus* ([link](#)) with Haupt - **MIT ISOLAT**, July.2020
- *Internet, you lie! (in French)* ([link](#)) — **L'Hémicycle**, Aug. 2019

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## Teaching & Advising

- Feb.21-Now**     **MIT - Institute for Data, Systems, and Society: *Quant Review***     Instructor for Masters Students
- Created content for, and teach a 15h-seminar in Algebra, Probability and Statistics, Micro-Economy and Data science for 30+ Masters Students. See class material [here](#). (Feedback available upon request)
- Jul.-Aug.20-21**     **MIT - Sloan School: *Data, Model, and Decisions***     Teaching Assistant for Executive MBAs
- Taught 120 MBA Students in Probability, Statistics, and Optimization, created recitations, wrote and graded problem sets (Teaching Evaluation: 6.7/7, details available upon request)
- Sept.18-Aug.19**     **MIT - Institute for Data, Systems, and Society**     Undergraduate Research Advisor
- Advised MIT UROP students Mariette Munier and Yi Wang

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## Academic Service

- Jun.21-Now**     **Working Group Organizer**
- **Mechanism Design for Social Good (MD4SG)**: Co-lead the civic participation research group ([link](#)), since Aug.22
  - **Workshop on Liquid Democracy**: Co-organized a 2-day conference to connect 50 scholars researching liquid democracy from various fields to spark inter-disciplinary discoveries at the University of Zurich in Dec.22
  - **International Conference of the Web and Social Media (ICWSM)**: Co-organized 1-day archival workshop on Alternative Realities in Troubled Democracies ([link](#)) in Jun.21
- Aug.23-Now**     **Reviewer for Academic Journals** - Review of Economic Studies
- Jun.19-Now**     **Reviewer for Academic Conferences** - Association for the Advancement of Artificial Intelligence (AAAI), Conference on Decision and Control (CDC) and American Control Conference (ACC), International Conference on Autonomous Agents and Multiagent Systems (AAMAS)
- Always-Now**     **Catalyzer of Ideas and Gatherings**
- I love organizing events around a topic, bringing curious audiences to create new ideas!
- **Seminar on the History of Mathematics**: Organize talks at MIT about maths concepts' history, since Oct.23
  - **Social Media Group Meeting**: Created program for and lead a semester-long seminar at the Harvard Law School about foundational aspects of social media, since Oct. 23

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## Research Conferences (selection)

- **Economics and Computation EC'23 (Kings College)** [Talk](#): In Defense of Liquid Democracy
- **AI for Institutions (Cooperative AI Foundation)** [Lightening Talk](#): AI Governance
- **Plurality Research Network (UC Berkeley)** [Lightening Talk](#): Governance with Proxy Democracy ([link](#))
- **Long-term Risks and Future Generation Worksoop (Maastricht University)** [Talk](#): *How to Open Democratic Representation?*
- **International Workshop on Reimagining Democracy 2022** [Talk](#): *How to Open Democratic Representation* ([link](#))
- **INFORMS 2022** [Talk](#): *Democracy Mechanisms for emerging forms of democratic participation*
- **EAAMO 2022** [Oral Presentation](#): *Liquid Democracy in Practice (Presented by D Halpern)*
- **SDSCon 2022 (MIT)** [Lightening Talk & Poster Session](#): *Collective Decision-Making in Representative Democracy*
- **WiDS 2022** [Lightening Talk](#): *Collective Decision-Making in Democracy*
- **AAAI Conference on Artificial Intelligence 2022** [Selected Oral Presentation & Poster](#): *Optimal Congress Size*

- **LIDS Student Conference 2022 (MIT)** Talk & Poster: *Collective Decision-Making on Binary Issues in Representative Democracy*
- **VCCA21 2021** Talk: *What can we learn about tinnitus from social media posts? (Best Pitch Award)*
- **IC2S2 2020** Talk: *The effect of native advertising on the U.S. News Industry*
- **College of Computing Launch 2018 (MIT)** Poster: *Online Ads: Failure of Quick-Fix Solution to Journalism Crisis*
- **TMP Consortium 2018 (Delft University)** Talk: *The role of the CRNs in online misinformation*

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## Work Coverage

- **IDSS News**, *Aligning Decision-Making Processes with Democratic Values* ([link](#)) - Apr.23
- **CentraleSupélec Social Media**, *Maths rescuing democracy +100,000 views across social media* ([link](#)) - Feb.22
- **MIT News & LIDS/AIL**, *Understanding how people make sense of information in the information age* ([link](#) & [link](#)) - Nov.20
- **MIT News**, *Combining artificial intelligence with their passions* ([link](#)) - Aug.19
- **AlterAgoLeMag Revel**: *En deça et au-delà des algorithmes* (Under and beyond algorithms) ([link](#)) - Sept. 18

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## Work Experience

- Sep.23-Now     **Responsible AI Institute**  
Fellow
- Team up with practitioners to design responsible AI assessments and deploy strategy for the Institute's clients
- May.-Aug.22     **Palantir Technologies**  
Deployment Strategist Intern
- Partnered with clients to design data analysis workflows in the Utility space and strengthened partnership
  - Conceived and deployed analytical workflows to augment real-time data-driven decisions
- Jul.-Aug.19     **Aerospacelab**  
Strategic Engineer - Machine Learning Consultant
- Envisioned and coded modules to monitor information virality leveraging natural language processing models

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## Skills and Interests

**Computer Languages:** Python (preferred), R, SQL, HTML (experienced), JAVA, Matlab, CSS (basic)

**Human Languages:** French (native), English (fluent), Italian (proficient), Spanish (basic)

**Journalism:** Created a newspaper (The Fool on the Hill) and worked for two radios (Radio Parentheses and Soleil de Re), writing editorials and hosting live shows between 2010 and 2018; conducted monthly interviews

**Basketball:** Practice in competition, national level; coach in summer camp and of university men's team

**Windsurfer, runner, books love**