

At the confluence of mathematics and political theory, I model collective stochastic behaviors and information disorders.

Education

- Sep.19-Now **MIT - Statistics and Data Science Center, PhD in Social & Engineering Systems and Statistics (GPA: 5/5)**
Relevant coursework: Statistical Reinforcement Learning and Decision-Making, Discrete Probabilities and Stochastic Processes, Fundamentals of Statistics, Mathematical Models in the Social Sciences, Doctoral Seminar in Statistics, Data-Driven Decision Making and Society, Optimized Democracy
- Sep.17-Jun.19 **MIT - Institute for Data, Systems and Society, MSc in Technology & Policy (GPA: 4.8/5)**
Relevant coursework: Statistics Computation & Application, Network Science & Models, Causal Inference, Fundamentals of Probability, Political Economy, Science Technology & Public Policy, Law Technology & Policy
- Sep.15-Jun.17 **ÉCOLE CENTRALE PARIS, BSc of Engineering & MSc in Applied Mathematics**
Relevant coursework: Advanced Probability, Statistics, Partial Differential Equations, Algebra and Cryptology, Algorithms & Programming, Machine Learning, Software Development, Information Systems, Embedded Control Systems, Quantum & Statistical Physics, Digital & Collaborative Engineering, Economy, Sociology, Epistemology

Work Experience

- Sep.17-Now **MIT - Institute for Data, Systems, and Society (MA)** **Research Assistant in Applied Mathematics**
 - Lead and designed research program on representative decision-making, finding insights from mathematics, computer science and political theory (see below) for applications in democracy, companies and DAOs
 - Partnered with companies and DAOs to deploy research, built related interdisciplinary scholarship
 - Studied causality of information disorders on public opinion and media credibility (see below details)**Stochastic and networked behaviors**
 - Theorized and experimented the performance of a novel networked governance model: liquid democracy; studied theory of stochastic delegation dynamics and ran 10+ experiments that validated the theory
 - Discovered regimes that maximize accuracy of binary *expert classifiers* (first order statistics of a sample)
 - Studied NBA players' key performance drivers through dimension reduction of plays (terabyte-size dataset)**Causality of information disorders**
 - Studied resonance of narratives with the citizenry and its interplay on social movements in France through statistical analyses of a corpus of 10k+ public opinion surveys and scraped media output
 - Leveraged 100k Reddit posts on tinnitus with NLP and network's dynamics to understand peer-support online
 - Measured the impact of online marketing on journalism credibility since the 2016 US election. Conducted NLP and Bayesian analyses of 1M headlines, and randomized experiments (n=10,000) testing ads' causal effects
- May.-Aug.22 **PALANTIR TECHNOLOGIES (NY)** **Deployment Strategist Intern**
 - Conceived and developed analytical workflows to augment data-driven decisions in the Utility space
 - Supported deployment of software features through high level vision and hands-on coding
- Jul.-Sep.19 **AEROSPACE LAB (Belgium)** **Machine Learning (ML) Consultant**
 - Coded modules to monitor information virality on social media implementing natural language models, network dynamics analyses and time series analyses
 - Wrote scripts to automatize data collection and scraping on Twitter, YouTube and Reddit
- May.-Aug.18 **CENTER FOR STRATEGIC AND INTERNATIONAL STUDIES (DC)** **Research Intern in Technology and Policy**
 - Studied the impact of the Internet ecosystem and regulation on people's relation to information
 - Collaborate with lawyers, industry partners and state officials to inform policy makers about GDPR
- Jun.-Aug.17 **NOKIA BELL LABS - Network, Algorithms, Analytics, Control and System Lab (NJ)** **Research Intern in ML**
 - Optimized slice allocation with forecasting methods and time series analysis to lower communication latency
 - Won intern R&D talk contest; and worked on side project with CEO, Marcus Weldon about news credibility

Skills

Python, R, SQL, HTML (JAVA, Matlab, CSS)

French, English, Italian (Spanish)

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 (TBA) and of university men's B team

Windsurfer, runner, books lover

Teaching

- Feb.21-Now* **MIT - Institute for Data, Systems and Society Masters: *Quant Review*** [Instructor for Masters Students](#)
- Created content for, and teach a 15h-seminar in Algebra, Probability and Statistics, Micro-Economy, Game Theory 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)

Service & Leadership

- Aug.22-Now* **Mechanism Design for Social Good (MD4SG)** - Co-lead the civic participation research group ([link](#))
- Jan.22-Now* **Workshop on Liquid Democracy** - Co-organize a 2-day conference to connect 50 scholars researching liquid democracy from various fields to spark inter-disciplinary discoveries
- 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)
- Dec.21-Jun.22* **New England Graduate Women in Science and Engineering** - Coordinator for the MIT council
- Sep.21-Apr.22* **CYN.AI** - Advised R&D team in building an algorithm to detect bias in readers' content, and flag missing context.
- Jan.-Jun.21* **International Conference of the Web and Social Media (ICWSM)** - Co-organized 1-day archival workshop *Alternative Realities in Troubled Democracies* ([link](#)). Created content, advertised event, reviewed papers.
- Sep.-Dec.21* **LIDS Student Conference** - Co-organized a 1-day online conference ([link](#)) featuring the work of 28 MIT students. Lead the machine learning and statistics session.
- Apr.-Jul.20* **MIT IDSS - Covid-19 COLLABORATION** - Designed opting-out and class schedules for MIT back-to-campus strategy following COVID-19 lockdown
- Sep.15-Jun.18* **BeeGames Association** - Launched a cross-functional collaboration between companies, universities, and basketball professionals. Lead of a 25-person team creating a network of investors and organising networking events. Worked with basketball professional athletes and federations (Official sponsor was Boris Diaw)

Awards

- 2022 **Harvard Kennedy School Ash Democracy Fellowship** - Reward students leading democratic innovations
- 2021 **Best Research Pitch** - Selected best video 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
- 2017 **Coordination Jeunes Promotions** - Best project for the BeeGames Association
- 2016 **Central Paris Laboratory of computer science and advanced systems** - First Prize of R&D Contest
- 2012 **Education Award** - Reward exceptional academics, leadership and civic life engagement in Ile-de-France

Publications

Peer-reviewed

- *Liquid Democracy in Practice: An Empirical Analysis of its Performance*, M Revel, D Haleprn, A Berinsky, A Jadbabaie - **Equity and Access in Algorithms, Mechanisms, and Optimization**, 2022 (non-arkival)
- *Online discussions about tinnitus: What can we learn from natural language processing of Reddit posts*, V Manchaiah, A Londero, D Deshpande, M Revel, G Palacios, L Boyd, & S Ratinaud - **American Journal of Audiology**, 2022
- *How Many Representatives Do We Need? The Optimal Size of an Epistemic Congress*, M Revel, T Lin, D Haleprn - Proceedings of 36th **AAAI Conference on Artificial Intelligence**, 2022
- *Varieties of Resonance: The Subjective Interpretations and Utilizations of Media Output in France*, BY Park, A Abecassis, M Revel - **Poetics**, 2021

Working Papers

- *In Defense of Liquid Democracy* (Under Review, [link](#)) with D Halpern, J Halpern, E Mossel, A Procaccia, A Jadbabaie

- *Native advertisement and the credibility of online publishers* (Under Review, [link](#)) with A Tohidi, D Eckles, A Berinsky, AJadbabaie
- *How to Open Democratic Representation?*
- *What can we learn about tinnitus from social media posts?* with V Manchaia, A Londero

Media Articles

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

Research Conferences

- **INFORMS 2022 (IN)**, Talk: *Democracy Mechanisms for emerging forms of democratic participation*
- **Algorithmic Technology for Democracy Workshop 2022 (Netherlands)**, Workshop Participant: *Representative Democracy*
- **EAAMO 2022 (DC)**, Oral Presentation: *Liquid Democracy in Practice*
- **SDSConference 2022 (MA)**, Lightening Talk & Poster Session: *Collective Decision-Making in Representative Democracy*
- **WiDS 2022 (MA)**, Lightening Talk: *Collective Decision-Making in Democracy*
- **36th AAAI Conference on Artificial Intelligence 2022 (remote)**, Selected Oral Presentation & Poster: *Optimal Congress Size*
- **LIDS Student Conference 2022 (Remote)**, Talk: *Collective Decision-Making on Binary Issues*
- **IDSS Visiting Committee 2022 (MA)**, Poster: *Collective Decision-Making in Representative Democracy*
- **LIDS Tea Talk 2021 (MA)**, Talk: *In defense of fluid democracy*
- **VCCA21 2021 (remote)**, Talk: *What can we learn about tinnitus from social media posts?*
- **LIDS Tea Talk 2021 (MA)**, Talk: *Fluid Democracy: An Alternative Approach to Decision-Making in Democracy*
- **IC2S2 2020 (remote)**, Talk: *The effect of native advertising on the U.S. News Industry*
- **College of Computing Launch 2018 (MA)**, Poster: *Online Ads: Failure of Quick-Fix Solution to Journalism Crisis*
- **IDSS Advisory Board 2018 (MA)**, Poster: *Online Ads: Failure of Quick-Fix Solution to Journalism Crisis*
- **TMP Consortium 2018 (Netherlands)**, Talk: *The role of the CRNs in online misinformation*

Invited Speaker

- **Congrès des Professeurs de Classe Préparatoires (remote)**, Invited Speaker: *TBD - June.23*
- **Reimagining Democracy (MA)**, Panelist: *How to Open Democratic Representation - Dec.22* ([link](#))
- **Computational Social Choice Seminar (remote)**, Invited Speaker: *Democratic Innovations and Social Choice - Nov.22* ([link](#))
- **Google Alphabet Modeling Seminar (remote)**, Invited Speaker: *Modeling Democratic Innovations - Nov.22*
- **Amsterdam University (Netherlands)**, Guest Lecturer: *Innovating with Democratic Representation - Oct.22*
- **Datascientest (remote)**, Guest Lecturer: *Data and Models to Study Alternative Voting Systems - Sept.22* ([link](#))
- **HEC Paris (France)**, Guest Lecturer: *Innovating with Democratic Representation - Sept.22*
- **HARVARD Innovating Democracy (MA)**, Invited Speaker: *Liquid Democracy as a Democratic Innovation - Apr.22*
- **MIT Brain & Cognitive Science Speaker Series (MA)**, Invited Speaker: *Liquid Democracy - Apr.22*
- **bluenove (remote)**, Industry Talk: *Démocratie Liquide et Intelligence Collective- Apr.22*
- **Hypermind (remote)**, Invited Speaker: *Liquid Democracy and Collective Intelligence - Apr.22*
- **University of Groningen (Netherlands)**, Guest Lecturer: *In Defense of Liquid Democracy - Mar.22*
- **Debating Europe (Belgium)**, Invited Panelist: *What should democracy look like in the 21st century? - Feb.22* ([link](#))
- **Sloan Fellows Speaker Series (MA)**, Guest Lecturer: *Collective Intelligence: Applications to Democracy - Dec.21*
- **WiDS 2020**, Panel: *Data weaponized, data scrutinized: a war on information, May20*
- **French ENT annual congress (Portugal)**, Invited speaker: *Will expert systems displace clinical intuition? - May.17* ([link](#))

News Coverage

- **CentraleSupélec Social Media**, *Les maths à la rescousse de la démocratie (Maths rescuing democracy)* +90,000 views on LinkedIn and +2,000 on YouTube ([link](#)) - Feb.22
- **MIT News**, *Understanding how people make sense of information in the information age* ([link](#)) - Nov.20
- **LIDS/AII**, *Understanding how people make sense of information in the information age* ([link](#)) - Oct.20
- **MIT News**, *Combining artificial intelligence with their passions* ([link](#)) - Aug.19
- **Alter Ago Le Mag** *Manon Revel: En deça et au-delà des algorithmes* (Under and beyond algorithms) ([link](#)) - Sept. 18