MANON REVEL

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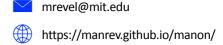🏠 Cambridge MA 02139

✉ mrevel@mit.edu
🌐 https://manrev.github.io/manon/

Research decentralized decision-making and information aggregation in social settings and AI governance. Passionate about aligning AI systems with democratic values.

Education

Aug.22-*Now*	**Harvard Kennedy School - Ash Center**	Doctoral Democracy Fellow

Research democratic innovation in political philosophy

Sep.*19-Now*	**MIT - Statistics and Data Science Center**	PhD in Social & Engineering Systems and Statistics (GPA: 5/5)

Focus Area: Discrete Probabilities & Stochastic Processes, Statistics, Mathematical Models in the Social Sciences, Data-Driven Decision-making & Society, Statistical Reinforcement Learning & Decision-making

Sep.*17-Jun.19*	**MIT - Institute for Data, Systems and Society**	MSc in Technology & Policy (GPA: 4.8/5)

Focus Area: 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 & Diplôme d'ingénieur (MSc. equivalent) in Applied Mathematics

Focus Area: Mathematics (fundamental and applied), Algorithms & Programming, Machine Learning, Physics.

Work Experience

Sep.*17-Now*	**MIT - Institute for Data, Systems, and Society (MA)**	Researcher in Computational Social Science

A mathematical theory of stochastic and networked behaviors for decentralized governance
- Designed and led project on decentralized and digital governance, partnered with companies, Decentralized Autonomous Organisations, and political actors to deploy research in the real world
- Co-authored a mathematical theory on the performance of novel vote aggregation models, studied the dynamics of random networked delegations, and ran 10+ experiments that statistically validated the theory

Statistical Analysis of the causality of information disorders
- Studied resonance of narratives with the citizenry and its interplay on social movements in France through natural language processing (NLP) of a corpus of 10k+ public opinion surveys and scraped media output
- 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

Side Projects in Data Science
- Leveraged 100k Reddit posts on tinnitus with NLP and networks dynamics to understand peer-support online
- Studied NBA players' key performance drivers through machine learning for dimension reduction of plays

May.-Aug.22	**Palantir Technologies (NY)**	Deployment Strategist Intern

- Partnered with clients to set scope problems and set vision for data-driven workflows in the Utility space
- Conceived and developed central analytical workflows to augment data-driven decisions
- Software-engineered deployment of product policy design

Jul.-*Aug.19*	**Aerospacelab (Belgium)**	Strategic Engineer - Machine Learning (ML) Consultant

- Envisioned and coded modules to monitor information virality on social media implementing natural language processing models, network dynamics analyses, time series analyses and other machine learning techniques

May.-Aug.18	**Center for Strategic and International Studies (DC)**	Research Intern in Technology and Policy

- Studied Internet ecosystems and AI regulation's impact on people's relation to information
- Collaborate with lawyers, industry partners, and state officials to inform policymakers 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 in department; and worked on a side project with CEO about news credibility

Skills and Interests

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

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 AI to detect bias in readers' content and flag missing context.

Apr-Jul.20   **MIT IDSS - Covid-19 COLLABORATION** - Co-designed opting-out and class schedules for MIT back-to-campus strategy following COVID-19 lockdown

Leadership and Management

Aug.22-Now   **Mechanism Design for Social Good (MD4SG)** - Co-lead the civic participation research group (*link*)

Jan.22-Dec.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

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.

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 organizing networking events. Worked with the former head coach of the French national team and Olympics vice-champions.

Awards

2022   **Harvard Kennedy School 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 associative project for the BeeGames Association
2012   **Education Award** - Reward exceptional academics, leadership and civic life engagement in Ile-de-France

Publications ([CS]: theoretical computer science, [E]: quantitative empirical science, [P]: philosophy)

Peer-reviewed

- [CS] *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 (non-arkival)
- [E] *Online discussions about tinnitus: What can we learn from natural language processing of Reddit posts,* Manchaiah, Londero, Deshpande, Revel, Palacios, Boyd, & Ratinaud - **American Journal of Audiology**, 2022
- [E] *Varieties of Resonance: The Subjective Interpretations and Utilizations of Media Output in France,* Park, Abecassis, Revel - **Poetics**, 2021

Working Papers

- [CS] *In Defense of Liquid Democracy* (under review, *link*) with Halpern, Halpern, Mossel, Procaccia, Jadbabaie

- [CS] *Selection Representative Bodies: An Axiomatic View* (under review), with Bohemer, Brill, Colley, Elkind, Faliszewski
- [P] How to Open Democratic Representation? (under review)
- [E] Liquid Democracy in Practice: A Better Empirical Analysis of its Performance, Revel, Haleprn, Berinsky, Jadbabaie
- [E] *Native advertisement and the credibility of online publishers* (under review, [link](#)) with Tohidi, Eckles, Berinsky, Jadbabaie

Media Articles
- *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

Research Conferences (selection)

- **Plurality Research Network Conference (University of California Berkeley)** <u>Lightening Talk</u>: Governance with proxy democracy
- **Long-term Risks and Future Generation Worksop (Maastricht University)** <u>Talk</u>: *How to Open Democratic Representation?*
- **Liquid Democracy Workshop (University of Zurich)** <u>Talk</u>: *Innovating with Liquid Democracy*
- **INFORMS 2022** <u>Talk</u>: *Democracy Mechanisms for emerging forms of democratic participation*
- **Algorithmic Technology for Democracy Workshop 2022 (Leiden University)** <u>Workshop Participant</u>: Representative Democracy
- **EAAMO 2022** <u>Oral Presentation</u>: *Liquid Democracy in Practice (Presented by D Halpern)*
- **SDSCon 2022 (MIT)** <u>Lightening Talk & Poster Session</u>: *Collective Decision-Making in Representative Democracy*
- **WiDS 2022** <u>Lightening Talk</u>: *Collective Decision-Making in Democracy*
- **AAAI Conference on Artificial Intelligence 2022** <u>Selected Oral Presentation & Poster</u>: *Optimal Congress Size*
- **LIDS Student Conference 2022 (MIT)** <u>Talk</u>: *Collective Decision-Making on Binary Issues*
- **IDSS Visiting Committee 2022 (MIT)** <u>Poster</u>: *Collective Decision-Making in Representative Democracy*
- **VCCA21 2021** <u>Talk</u>: *What can we learn about tinnitus from social media posts?*
- **IC2S2 2020** <u>Talk</u>: *The effect of native advertising on the U.S. News Industry*
- **College of Computing Launch 2018 (MIT)** <u>Poster</u>: *Online Ads: Failure of Quick-Fix Solution to Journalism Crisis*
- **IDSS Advisory Board 2018 (MIT)** <u>Poster</u>: *Online Ads: Failure of Quick-Fix Solution to Journalism Crisis*
- **TMP Consortium 2018 (Delft University)** <u>Talk</u>: *The role of the CRNs in online misinformation*

Invited Speaker (selection)

- **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](#))
- **Google 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*
- **Innovating Democracy Organization (Harvard)** *Liquid Democracy as a Democratic Innovation - Apr.22*
- **Brain & Cognitive Science Speaker Series (MIT)** *Liquid Democracy - Apr.22*
- **bluenove** *Démocratie Liquide et Intelligence Collective- Apr.22*
- **Hypermind** *Liquid Democracy and Collective Intelligence - Apr.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](#))

News Coverage

- **CentraleSupelec 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/All**, *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