

Summary

- Research at the intersection of AI, machine learning, economics, game theory published in general conferences (ICML, ICLR, NeurIPS), specialized conferences (ACM AI, Ethics and Society, Economics and Computation), as well as top general and specialized journals (Operations Research, Nature).
- Have helped ship large changes to Facebook News Feed
- Built internal machine learning tools used by dozens of teams at Meta including News Feed, Integrity, Ads, Dating and others

Here I list representative work and include links to example artifacts (usually papers) for more information. Some projects that I have worked on are applied/internal-facing/not public so I will give links to patents or other publicly available information about the technical facets of these projects.

Research Interests and Links to Selected Papers

- Graph embedding models (representative papers: [1](#), [2](#))
- AI models that can cooperate with new partners (representative papers: [1](#), [2](#), [3](#), [4](#))
- Answering counterfactual questions using experimental and observational data (representative papers: [1](#), [2](#), [3](#))
- Using ML to learn about human preferences (representative papers: [1](#), [2](#))
- Topics at the intersection of computer science and market design (representative papers: [1](#), [2](#))
- Applications of ML in healthcare, joint work with NYU Langone (representative papers: [1](#), [2](#))

Work Experience

2017-Present Facebook/Meta AI Research

Summary Did basic research and helped to move research ideas into production.

- Gave talks, led workshops, reviewed for major conferences – all the standard academic things
- Co-led team which built and deployed large scale graph embedding models which are used internally by many teams ([paper](#), [open source implementation](#))
- Worked with Integrity teams to use graph-based algorithms for bad actor detection ([example open source project](#))

2014-2017 Facebook News Feed

Summary Technical lead for News Feed data science team. We analyzed the Facebook ecosystem and also deployed machine learning models for advanced experimentation, recommendations, and personalization

- Built services for interpretable machine learning used by News Feed team to understand how black box algorithms work
- Led technical development on [clickbait detection](#) which, when launched, was a major change to Facebook News Feed ([NYTimes coverage](#))
- Built improvements to experimentation system to improve precision of estimates, measure network effects, and construct personalized policies ([short presentation on some lessons from this work](#))
- Co-led project which used large scale surveys as well as other methods to measure user preferences and align News Feed algorithms with them ([story in TIME Magazine](#), [example patent](#))

Education

Ph.D. in Economics

2009-2013

Advisors: Al Roth, Drew Fudenberg

Harvard University, Cambridge, MA

Thesis: “Essays in Behavioral Economics”