

## David Mingfei Liu

### Contact Information

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### Education

**Northeastern University** (2020 - 2025 *Expected*)  
Ph.D. Candidate, Computer Science  
Khoury College of Computer Sciences and Network Science Institute  
Advisor: Professor Tina Eliassi-Rad

**Princeton University** (2018)  
B.S.E in Computer Science with Certificate in Statistics and Machine Learning  
*summa cum laude*  
Undergraduate Advisor: Professor Matthew J. Salganik

### Publications

**David Liu**, Virginie Do, Nicolas Usunier, Maximilian Nickel. 2023. Group Fairness Without Demographics Using Social Networks. In *2023 ACM Conference on Fairness, Accountability, and Transparency (FAccT '23)*. [\[pdf\]](#)

**David Liu** and Tina Eliassi-Rad. 2023. Identifying and Mitigating Instability in Embeddings of the Degenerate Core. In *Proceedings of the 2023 SIAM Data Mining Conference (SDM)*. [\[pdf\]](#)

Agapi Rissaki\*, Bruno Scarone\*, **David Liu**, Aditeya Pandey, Brennan Klein, Tina Eliassi-Rad, and Michelle A. Borkin. 2022. BiaScope: Visual Unfairness Diagnosis for Graph Embeddings. *Symposium on Visualization in Data Science at IEEE VIS (VDS '22)*. [\[pdf\]](#)

**David Liu\***, Priyanka Nanayakkara\*, Sarah Sakha, Grace Abuhamad, Su Lin Blodgett, Nicholas Diakopoulos, Jessica Hullman, and Tina Eliassi-Rad. 2022. Examining Responsibility and Deliberation in AI Impact Statements and Ethics Reviews. In *Proceedings of the 2022 AAAI/ACM Conference on AI, Ethics, and Society (AIES '22)*. [\[pdf\]](#)

**David Liu**, Zohair Shafi, William Fleisher, Tina Eliassi-Rad, and Scott Alfeld. 2021. RAWLSNET: Altering Bayesian Networks to Encode Rawlsian Fair Equality of Opportunity. In *Proceedings of the 2021 AAAI/ACM Conference on AI, Ethics, and Society (AIES '21)*. [\[pdf\]](#)

**David Liu** and Matthew J. Salganik. Successes and struggles with computational reproducibility: Lessons from the fragile families challenge. *Socius*, 5:1–21, 2019. [\[pdf\]](#)

### Preprints

**David Liu**, Jackie Baek, and Tina Eliassi-Rad. 2023. When Collaborative Filtering is not Collaborative: Unfairness of PCA for Recommendations. [\[pdf\]](#)

<b>Public Scholarship</b>	<p>Cynthia Conti-Cook, Roya Pakzad, Sarah Ariyan Sakha, and <b>David Liu</b>. 2023. A Guiding Framework for Vetting Technology Vendors Operating in the Public Sector. A research report by the Ford Foundation. <a href="#">[link]</a>.</p> <p><b>David Liu</b> and Sarah Sakha. Power: The exclusionary costs of large-scale computing. In <i>A New AI Lexicon</i> by The AI Now Institute. <a href="#">[link]</a></p>	
<b>Tutorials</b>	<p>2023 ACM Conference on Fairness, Accountability, and Transparency (FAccT '23): Translation/Dialogue Tutorial: A Guiding Framework for Vetting Technology Vendors Operating in the Public Sector (with Cynthia Conti-Cook, Roya Pakzad, and Sarah Ariyan Sakha), Chicago, IL, June 2023.</p>	
<b>Posters</b>	<p><b>David Liu</b>. Disaggregating bike-share mobility data to measure urban segregation over time. <i>The 9<sup>th</sup> International Conference on Computational Social Science (IC2S2)</i>, Copenhagen, Denmark, July 2023.</p> <p><b>David Liu</b> and Tina Eliassi-Rad. Increasing the Stability of Embeddings of the Degenerate Core. <i>The 2022 International Conference on Network Science (NetSci)</i>, Virtual Conference, July 2022. (oral presentation)</p> <p><b>David Liu</b>. Uncovering the Evolution of Mukbang Videos on Youtube. <i>The 7<sup>th</sup> International Conference on Computational Social Science (IC2S2)</i>, Virtual Conference, July 2021.</p> <p><b>David Liu</b>. Uncovering the Evolution of Mukbang Videos on Youtube. <i>Networks 2021: A Joint Sunbelt and NetSci Conference</i>, Virtual Conference, July 2021. (poster presentation)</p>	
<b>Professional Experience</b>	<p><b>University of California, Berkeley</b> - <i>Visiting Graduate Student</i>      Fall 2022          Simons Institute Program on “Graph Limits and Processes on Networks: From Epidemics to Misinformation”</p> <p><b>Meta AI (FAIR)</b> - <i>AI Research Intern</i>      May 2022 - Aug 2022          Supervisor: Maximilian Nickel</p> <p><b>Bloomberg LP</b> - <i>Software Engineer</i>      Jul 2018 - Sep 2020</p> <p><b>The New York Times</b> - <i>Software Intern</i>      Jun 2017 - Aug 2017</p>	
<b>Awards and Honors</b>	<p>2023    SDM Doctoral Forum and Travel Award</p> <p>2021    NSF Graduate Research Fellowship (GRFP)</p> <p>2018    Sigma Xi Nomination</p>	
<b>Activities</b>	<p>2021    Subtle CSCW Traits: Tensions around Identity Formation and Online Activism in the Asian Diaspora, workshop participant.</p> <p>2020    ML Reproducibility Challenge, participant.</p>	
<b>Invited Talks</b>	<p>2021    MD4SG Working Group on Discrimination in Algorithmic Decision-making, Invited Speaker. Online.</p> <p>2019    RabbitMQ Summit, Keynote Speaker. <i>Growing a farm of rabbits to scale financial applications</i>. London, UK.</p> <p>2016    Fragile Families Challenge Scientific Workshop, Invited Speaker. Princeton, NJ.</p>	

<b>Academic Service</b>	ICLR '23	Program Committee
	AIES '21, '22, '23	Program Committee
	FAccT '23	Program Committee
	WWW '23	Subreviewer
	NeurIPS '21	Student Volunteer