

Liang “Charles” Lyu

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Education

Massachusetts Institute of Technology, Cambridge, MA September 2021 – Present
Ph.D. Student – Laboratory for Information & Decision Systems (LIDS), Department of EECS
Advisors: Prof. Asu Ozdaglar and Prof. Dan Huttenlocher

Duke University, Durham, NC December 2020
Bachelor of Science – Computer Science and Mathematics GPA: 3.99 / 4.0

Research Statement

I am broadly interested in studying the impacts of algorithms on humans and society, as well as measures to mitigate the potentially undesirable consequences. My recent work focuses on online platforms and markets, and the algorithms they employ such as recommendations. One particular interest of mine is social media, such as the interactions between platforms, users, creators and content, the effects of platform algorithms and decisions on the behaviors of different players, and how they relate to societal phenomena such as the spread of misinformation and the rise of LLMs. Previously, I have also worked on algorithmic fairness.

Publications

1. [“Generative AI in the Era of ‘Alternative Facts.’”](#)
 - Saadia Gabriel, **Liang Lyu**, James Siderius, Marzyeh Ghassemi, Jacob Andreas, and Asu Ozdaglar.
 - Accepted to *the 2024 conference on Empirical Methods in Natural Language Processing (EMNLP 2024)*.
2. [“Matching of Users and Creators in Two-Sided Markets with Departures.”](#)
 - Daniel Huttenlocher, Hannah Li, **Liang Lyu**, Asuman Ozdaglar, and James Siderius.
 - **ArXiv preprint** (2023). To be submitted to *Operations Research* in the future.
3. [“Centrality with Diversity.”](#)
 - **Liang Lyu**, Brandon Fain, Kamesh Munagala, and Kangning Wang.
 - In *Proceedings of the 14th ACM International Conference on Web Search and Data Mining (WSDM 2021)*. 644-652.
4. [“Proportionally Fair Clustering.”](#)
 - Xingyu Chen, Brandon Fain, **Liang Lyu**, and Kamesh Munagala.
 - In *Proceedings of the 36th International Conference on Machine Learning (ICML 2019)*. 1032-1041.

Other Projects

1. “Influencer Advertising and Matching: A Model Inspired by TikTok Content Creators.”
 - With Gary Qiurui Ma.
2. “Examining the Impacts of ChatGPT on Wikipedia Activity.”
 - With Daron Acemoglu, Daniel Huttenlocher, Hannah Li, Asuman Ozdaglar, and James Siderius.
3. “Misinformation Online to Offline: A Twitter Field Study.”
 - With Daron Acemoglu, Adam Berinsky, Asuman Ozdaglar, and James Siderius.
4. “An Experiment on Algorithmic Ranking: User Behavior, Platform Incentives, and Policy.”
 - With Daniel Huttenlocher, Asuman Ozdaglar, and James Siderius.

Presentations

“Matching of Users and Creators in Two-Sided Markets with Departures.” (*Previously appeared as:*

“*Dynamic Matching of Users and Creators on Social Media Platforms.*”)

- INFORMS Annual Meeting 2024 & 2023
- Eighth Marketplace Innovation Workshop (MIW 2023)

“An Experiment on Algorithmic Ranking: User Behavior, Platform Incentives, and Policy.”

- INFORMS Annual Meeting 2022

“Centrality with Diversity.”

- 14th ACM International Conference on Web Search and Data Mining (WSDM 2021)

Teaching Experience

Teaching Assistant, Massachusetts Institute of Technology *Fall 2024*

- TA for 6.1210: Introduction to Algorithms

Undergraduate Teaching Assistant, Duke University *Spring 2018 – Fall 2020*

- UTA for 4 Computer Science courses over 6 semesters
- Head UTA for CompSci 201: Data Structures & Algorithms (Fall 2018 – Fall 2020)

Honors & Awards

MathWorks Engineering Fellowship *2023 – 2024*

David S. Y. Wong (1962) and Harold Wong Fellowship *2021 – 2022*

Honorable Mention, CRA Outstanding Undergraduate Researchers *2020*

Dean’s List, Duke University *Fall 2017 – Fall 2019*

- Dean’s List with Distinction *Fall 2017 – Spring 2019*

International Collegiate Programming Contest (ICPC) *2017 – 2021*

- Participated in ICPC World Finals 2020
- North America Championship: 19th (2020), 33rd (2021)
- Mid-Atlantic Regionals: 4th (2017), 4th (2018), 2nd (2019), 5th (2020)