

# Qinyi Chen

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## Education

**Massachusetts Institute of Technology (MIT)**, Cambridge, MA 09/2020-05/2025 (Expected)  
Ph.D. candidate in Operations Research, GPA: 5.0/5.0. Advisor: Prof. Negin Golrezaei  
Research focus: Online Learning and Optimization, Fairness in AI/ML, Game Theory and Auction Theory, Approximation Algorithms, Revenue Management, Online Platforms and Marketplaces.

**University of California, Los Angeles (UCLA)**, Los Angeles, CA 09/2016-03/2020  
B.S. in Applied Mathematics, Specialization in Computing, GPA: 3.99/4.00.  
Summa Cum Laude, College Honors, Departmental Honors, Phi Beta Kappa.

## Research & Work Experience

**Massachusetts Institute of Technology (MIT)**, Cambridge, MA 09/2020-Present  
**Graduate Research Assistant**, advised by Prof. Negin Golrezaei

- Designed and implemented fair and efficient online learning and optimization algorithms for various applications in online platforms/marketplaces, including multi-sided recommendation systems, assortment optimization, and ad bidding and pricing. Provided near-optimal theoretical guarantees to the proposed algorithms and validated their strength via real-world case studies.

**eBay Inc.**, San Jose, CA 06/2023-08/2023

**Applied Researcher Intern, Search & Monetization Team**, manager: Djordje Gligorijevic

- Developed innovative ad bidding and budget pacing algorithms for eBay's Promoted Listings Advanced (PLA) sponsored search program, which increased impressions/clicks received by PLA campaigns, elevated system smoothness, and maintained platform's revenue. This work is currently prepared for publication.

**University of California, Los Angeles (UCLA)**, Los Angeles, CA 04/2018-08/2020

**Undergraduate Research Assistant**, advised by Prof. Andrea Bertozzi, Prof. Mason Porter

- Conducted research on (i) devising subgraph matching algorithms on multiplex networks; (ii) formulating continuous-time SIR model on tie-decay networks; (iii) developing learning and optimization algorithms for online resource allocation. Research culminated in 3 journal publications and 2 conference publications.

## Publications & Preprints

8. "Interpolating Item and User Fairness in Recommendation Systems." **Q. Chen**, J.C.N. Liang, N. Golrezaei, and D. Bouneffouf, submitted. Preliminary version available at Arxiv: <https://arxiv.org/abs/2306.10050>.

7. "Fair Assortment Planning." **Q. Chen**, N. Golrezaei, and F. Susan, under review at Management Science. Preprint available at Arxiv: <https://arxiv.org/abs/2208.07341>.

- Accepted at 2022 Revenue Management & Pricing Conference, Spotlight Talk
- Accepted at 2022 MSOM Service Management SIG Conference (acceptance rate: 12%)
- Finalist, INFORMS IBM Service Science Best Student Paper Award
- Finalist, INFORMS Social Media Analytics Best Student Paper Competition
- Honorable Mention, INFORMS Minority Issue Forum Student Poster Competition

6. "Non-Stationary Bandits with Auto-Regressive Temporal Dependency." **Q. Chen**, N. Golrezaei and D. Bouneffouf, accepted at 37<sup>th</sup> Conference on Neural Information Processing Systems (**NeurIPS 2023**). Preliminary version available at Arxiv: <https://arxiv.org/abs/2210.16386>.

5. "Epidemic Thresholds of Infectious Diseases on Tie-Decay Networks." **Q. Chen**, M.A. Porter, Journal of Complex Networks, 10(1): cnab031, February, 2022.
4. "Subgraph Matching on Multiplex Networks." J.D. Moorman, T.K. Tu, **Q. Chen**, X. He, and A.L. Bertozzi, IEEE Transactions on Network Science and Engineering, 8(2): 1367-1384, February, 2021.
3. "Inexact Attributed Subgraph Matching." T.K. Tu, J.D. Moorman, D. Yang, **Q. Chen** and A.L. Bertozzi, 2020 IEEE International Conference on Big Data (Big Data), pages 2575-2582, December, 2020.
2. "Online Learning and Matching for Resource Allocation Problems." A. Boskovic, **Q. Chen**, D. Kufel, and Z. Zhou, SIAM Undergraduate Research Online (SIURO), 13: 207-230, October, 2020.
1. "Filtering Methods for Subgraph Matching on Multiplex Networks." J.D. Moorman, **Q. Chen**, T.K. Tu, Z.M. Boyd, A.L. Bertozzi, 2018 IEEE International Conference on Big Data (Big Data), pages 3980-3985, December, 2018.

### Honors and Awards

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| 1. Finalist, INFORMS IBM Service Science Best Student Paper Award                         | 2022 |
| 2. Finalist, INFORMS Social Media Analytics Best Student Paper Competition                | 2022 |
| 3. Honorable Mention, INFORMS Minority Issue Forum Student Poster Competition             | 2022 |
| 4. Daus Scholarship in Mathematics (awarded to a top-ranked student in mathematics), UCLA | 2020 |
| 5. Outstanding Poster Award, Joint Mathematics Meetings                                   | 2020 |

### Selected Talks

- "Interpolating Item and User Fairness in Recommendation Systems"
  - 2023 INFORMS Annual Meeting
- "Fair Assortment Planning"
  - 2022/2023 INFORMS Annual Meeting
  - 2023 POMS Annual Conference
  - 2022 MSOM Service Management SIG Conference
  - 2022 Revenue Management & Pricing Conference, Spotlight Presentation
  - 2022 Marketplace Innovation Workshop (MIW)
- "Non-Stationary Bandits with Auto-Regressive Temporal Dependency"
  - 2021, 2022, 2023 INFORMS Annual Meeting
  - IJCAI-ECAI 2022 Doctoral Consortium
  - 2021, 2022 MIT-IBM Watson AI Lab Poster Session

### Professional Services

- Session Co-Chair
  - "Fair and Socially Aware Practices in Operations Management", 2023 INFORMS Annual Meeting
- Reviewer
  - ICML (2022, 2023), NeurIPS (2022, 2023), ICLR (2024), The Web Conference 2024
  - Production and Operations Management, IEEE Open Journal of Signal Processing
- Student Coordinator, MIT Operations Management Seminar Series Spring & Fall 2022
- Visiting Graduate Student, Learning and Games Program, Simons Institute at UC Berkeley Spring 2022

### Skills

**Programming:** Python, Matlab, LaTeX, Julia, Gurobi, C++, Git, Mathematica  
**Languages:** English (proficient), Mandarin (native), Spanish (basic)