

Yushan Qu

Ph.D. Candidate, Industrial and Operations Engineering
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Education

University of Michigan, Ann Arbor, MI Sept. 2022–present
Ph.D. in Industrial and Operations Engineering, expected May 2027
Advisor: Jon Lee

Selected graduate coursework: Lattice Theory; Polyhedral Theory; Combinatorial Matrix Theory; Numerical Linear Algebra; Linear Programming II; Integer Programming.

The Ohio State University, Columbus, OH Sept. 2018–Dec. 2021
B.S. in Mathematics

Research Interests

Discrete mathematics; geometric combinatorics and polyhedral geometry;
combinatorial and mixed-integer optimization.

Journal Papers

1. Yushan Qu and Jon Lee. *Facet normals of Minkowski sums of staircase simplices*.
Preprint, 2026. [arXiv:2610.35689]
2. Yushan Qu and Jon Lee. *On the facets of the Cayley polytope of Stanley's triangulation*.
Preprint, 2026. [arXiv:2610.35668]
3. Yushan Qu and Jon Lee. *More on disjunctive convex hulls of generalized cross polytopes*.
Preprint, 2026. [arXiv:2610.05560]
4. Yushan Qu and Jon Lee. *On disjunction convex hulls for generalized cross polytopes*.
Preprint, 2026. [arXiv:2607.03460]
5. Yushan Qu and Jon Lee. *On disjunction convex hulls by big- M lifting*.
Discrete Applied Mathematics **371** (2025), 31–45. [DOI]

Refereed Conference Proceedings

1. Yushan Qu and Jon Lee. *On disjunction convex hulls for generalized cross polytopes*.
In *Combinatorial Optimization*, Proceedings of ISCO 2026, Lecture Notes in Computer Science **16613**,
Springer, 2027, pp. 232–244. [DOI]
Preliminary version of Research Paper 4.
2. Yushan Qu and Jon Lee. *On disjunction convex hulls by lifting*.
In *Combinatorial Optimization*, Proceedings of ISCO 2024, Lecture Notes in Computer Science **14594**,
Springer, 2024, pp. 3–15. [DOI]
Preliminary version of Research Paper 5.

Research Presentations

- **INFORMS Annual Meeting** (scheduled) Nov. 2026
Job Market Showcase, San Francisco, CA.
- **International Symposium on Combinatorial Optimization** May 2026
Kuşadası, Türkiye.
- **SIAM Minisymposium** Nov. 2024
University of Michigan, Ann Arbor, MI.
- **Institute for Computational and Experimental Research in Mathematics (ICERM)**, Brown University, Providence, RI. Aug. 2024
- **International Symposium on Mathematical Programming** July 2024
Montréal, Canada.
- **Young Mathematicians Conference** Aug. 2021
The Ohio State University, Columbus, OH.

Poster Presentations

- **Mixed Integer Programming Workshop** May 2026
University of Connecticut, Stamford, CT.
- **Algebra, Geometry and Combinatorics Day (AlGeCom)** Nov. 2024
University of Michigan, Ann Arbor, MI.
- **Undergraduate Mathematics Symposium** Nov. 2021
University of Illinois Chicago, Chicago, IL.

Academic Service

- Advisory board member, Association for Women in Mathematics (AWM), 2024–2026.
- Organizing committee member, AWM Mini-Conference (event canceled).
- Panelist, graduate school panel, Women in Math undergraduate club, Nov. 2024.

Professional Membership

Association for Women in Mathematics.

Computing Skills

Programming: C++, Java, Python, MATLAB.

Databases: SQL.