Rui Gong

H. Milton Stewart School of Industrial and Systems Engineering, Georgia Institute of Technology
765 Ferst Drive NW, Atlanta, GA 30332.
rgong44@gatech.edu
rui-gong-0791.github.io

RESEARCH INTERESTS

Semidefinite Optimization and its application to Combinatorial Optimization, Convex Optimization and other areas.

EDUCATION

Georgia Institute of Technology — Atlanta, Georgia, U.S.A.
PhD in Operation Research — 2023.08-2027.08 (expected)

- Advisor: Diego Cifuentes, Alejandro Toriello
- Passed Comprehensive Exams
- GPA: 4.0/4.0

University of Waterloo — Waterloo, Ontario, Canada
M.Math. in Combinatorics & Optimization — 2021.09-2023.06

- Thesis: Low-Rank Plus Sparse Decompositions of Large-Scale Matrices via Semidefinite Optimization
- Advisor: Levent Tuncel
- Passed C&O PhD first stage comprehensive exams: Continuous Optimization, Graph Theory
- GPA: 92.67/100

University of Waterloo — Waterloo, Ontario, Canada
B.Math. Triple Major in Mathematical Finance, Mathematical Optimization, Statistics — 2017.09-2021.08

- Dean's Honour List
- Grad-Level GPA: 94.67/100

SCHOLARSHIPS & AWARDS

Georgia Institute of Technology
ISyE Premium Fellowship
Ronald & Carol Beerman Fellowship
University of Waterloo

Math Domestic Graduate Student Award	2022-2023
Sinclair Graduate Scholarship	2023.01-2023.04
Sinclair Graduate Scholarship	2022.09-2022.12
C & O Graduate Award	2022.01-2022.04
Sinclair Graduate Scholarship	2022.01-2022.04
President's Scholarship of Uwaterloo	2017

RESEARCH

Rounding the Lovász Theta Function with a Value Function Approximation (submitted), Rui Gong, Diego Cifuentes, Alejandro Toriello.

SEMINARS

Talks:
Value Function Approximation for Maximum Stable Set Problem, Combinatorial Optimisation and Graph Theory Session, International Symposium on Mathematical Programming (ISMP 2024), Montréal, Canada. July 26, 2024

Value Function Approximation for Maximum Stable Set Problem, First Year PhD Seminar, ISyE, Georgia Institute of Technology. February 23, 2024

Low-Rank Plus Sparse Decompositions of Large-Scale Matrices via Semidefinite Optimization, MMATH Thesis Talk, Department of Combinatorics & Optimization, Faculty of Mathematics, University of Waterloo. May 3, 2023

Convex Optimization, Factor Analysis and Realizability of a Subspace, Graduate Research Seminar, Department of Combinatorics & Optimization, Faculty of Mathematics, University of Waterloo. April 11, 2022

Posters:

Rounding the Lovasz Theta Function with a Value Function Approximation, Mixed Integer Programming Workshop 2024, Poster Finalist, University of Kentucky. March 4, 2024

Workshops:

Attendee: Fulkerson 100, University of Waterloo. July 17-19, 2024.

Algorithms, Combinatorics and Optimization Research Network (ACORN) Meeting 2023, Georgia Institute of Technology. March 9–11, 2023

24th Midwest Optimization Meeting & Workshop on Large Scale Optimization and Applications, University of Waterloo. October 28-29, 2022

WORK EXPERIENCE

Intact Financial Corporation Toronto, Canada

Actuarial Analyst of Ontario PL Pricing 2020.01 - 2020.04

Extracted and manipulated databases to respond to internal inquiries by SAS. Generated earning and loss reports weekly and monthly by Excel and SAS. Analyzed correctness of rates for insurance premium algorithm with R.

TEACHING

Teaching Assistant University of Waterloo

- Undergraduate course: Portfolio Optimization (CO372) 2021.09-2022.04; 2022.09-2022.12
  Holding office hours, marking assignments and exams.
- Graduate course: Semidefinite Programming (CO471/671) 2022.05-2022.08
  Marking assignments.

TECHNICAL STRENGTHS

Language Proficiency: Native Chinese Speaker, Proficient in English

Programming Languages: Julia, Python, Matlab, R, C++, LaTeX