

R. CHARLIE LIU

Email: alphakun@mit.edu ◊ Github: <https://github.com/Alpha-kun>

Google Scholar: <https://scholar.google.com/citations?user=YRcC0tUAAAAJ>

EDUCATION

Massachusetts Institute of Technology, Cambridge MA *May 2029 (Expected)*
PhD in Operations Research Advisors: Rahul Mazumder, Haihao Lu

Rice University, Houston TX *May 2024*
B.A. in Operations Research GPA: 3.9/4.0

Relevant Courses: Large Scale Optimization, Simulation Modeling and Analysis, Graph Theory, Stochastic Models, Probabilistic Algorithms and Data Structures, Machine Learning, Artificial Intelligence, Reinforcement and Deep Learning

SKILLS

Programming Languages

Python (numpy, pandas, sklearn, pytorch, tensorflow, gurobipy), Java, C/C++, Matlab, Julia

Expertise

Algorithm Design, Machine Learning, Data Analysis, Mathematical Optimization

PROFESSIONAL EXPERIENCES

Lawrence Livermore National Laboratory *Jun 2022 – Aug 2022*
Position: Research Assistant

PUBLICATIONS

- Liu R**, Karagoz A, Validi H, Schaefer A, Strengthened MIP Formulations for the Liver Region Redesign Models of Akshat et al.. *Optim Lett*(2024). <https://doi.org/10.1007/s11590-024-02179-w>
- Liu R**, Wu X, Nalluri P, Shukla K, Chan J, 2024. High order entropy stable schemes for the quasi-one-dimensional shallow water and compressible Euler equations. *Journal of Computational Physics*, 504, p.112876.
- Liu R**, Kuske R, Yurchenko D, 2023. Maps unlock the full dynamics of targeted energy transfer via a vibro-impact nonlinear energy sink. *Mechanical Systems and Signal Processing*, 191, p.110158.

ACADEMIC COMPETITIONS

William Lowell Putnam Mathematical Competition

- Placed **148th** (top 4%) place in 2022's Putnam Competition (official result)
- Placed top 200 nationally in 2020's Putnam Competition (exact rank unknown due to covid)

International Collegiate Programming Competition (ICPC)

- Team ranked 34th in North America in the 2023 North America Championship
- Team ranked 35th in North America in the 2021 North America Championship

AWARDS AND SCHOLARSHIPS

NSF Graduate Research Fellowship *2024*
Goldwater Scholarship *2023*
INFORMS Scholarship *2023*