

SPRING 2024

RENSSELAER POLYTECHNIC INSTITUTE

DEPARTMENT OF MATHEMATICAL SCIENCES COLLOQUIUM

Jialin Liu (Alibaba DAMO Academy)

January 22, 2024 - 4pm

PITTS 4206

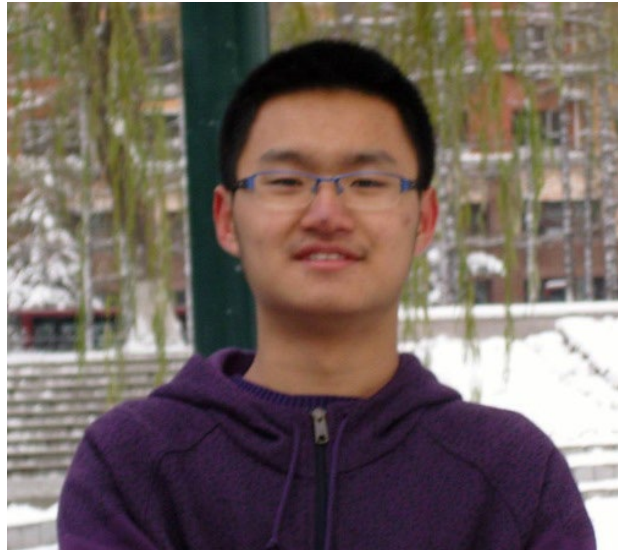
Towards Explainable and Reliable AI Models for Optimization

AI and data science have demonstrated remarkable potential in enhancing optimization algorithms. Utilizing AI/ML techniques, we aim to complement and potentially enhance traditional optimization methods, offering improvements in aspects like computational speed and solution quality. Despite these advancements, a deep, systematic understanding of these methods remains underdeveloped. In this talk, the speaker will demonstrate through concrete examples how mathematical tools, particularly optimization theory, can be used to unravel the mysteries of these "black boxes." The speaker will also discuss the development of interpretable and reliable AI models for optimization, grounded in these mathematical principles.

Refreshments served at 3:30pm 4th floor Lounge – Amos Eaton

Biographical Sketch

Jialin Liu received B.S. degree in automation from Tsinghua University in 2015 and received the Ph.D. degree in applied mathematics at University of California, Los Angeles (UCLA) in 2020. He is currently a senior algorithm engineer at DAMO Academy, Alibaba Group US. His research interest lies in the intersection of optimization and machine learning, with a particular focus on developing and analyzing machine-learning-driven algorithms for solving various optimization problems, such as continuous and combinatorial optimization. He won "Best Student Paper: Third Place" at the 2017 International Conference on Image Processing (ICIP).



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