

ZEGUAN WU

CONTACT INFORMATION

Lehigh University
200 W Packer Ave
Bethlehem, PA 18015

Phone: (929) 319-2255
Email: zeguan@lehigh.edu
Last updated: May, 2023

EDUCATION

Lehigh University Ph.D., Industrial and Systems Engineering Advisor: Tamás Terlaky & Xiu Yang	Bethlehem, PA May 2025 (<i>expected</i>)
Columbia University M.Sc., Operations Research	New York, NY Dec 2019
Nanjing University B.Sc., Material Physics	Nanjing, China Jul 2018

RESEARCH INTERESTS

Quantum Linear Algebra, Quantum Computing, Optimization, Machine Learning

RESEARCH EXPERIENCE

Los Alamos National Laboratory Quantum Computing Summer School Fellowship Mentor: Marc Vuffray	Los Alamos, NM 2023 - Present
Lehigh University Department of Industrial & Systems Engineering Advisor: Tamás Terlaky & Xiu Yang Topics: Optimization and Machine Learning with Quantum Computing	Bethlehem, PA 2020 - Present
Columbia University Department of Civil Engineering and Engineering Mechanics Advisor: Xuan (Sharon) Di Topics: Bi-level Optimization in Traffic Network Modeling	New York, NY 2019 - 2020

WORK EXPERIENCE

Lehigh University Research Assistant	Bethlehem, PA 2020 - Now
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PAPERS UNDER REVIEW

1. “An Inexact Feasible Interior Point Method for Linear Optimization with High Adaptability to Quantum Computers”, submitted to SIAM-OPT, Mohammadhossein Mohammadisiahroudi, Ramin Fakhimi, **Zeguan Wu**, and Tamás Terlaky.

WORKING PAPERS

1. “Preconditioned Quantum Interior Point Method for Linear Optimization”, **Zeguan Wu**, Xiu Yang, and Tamás Terlaky.
2. “An Inexact Feasible Quantum Interior Point Method using Normal Equation System”, Mohammadhossein Mohammadisiahroudi, **Zeguan Wu**, Arielle Carr, and Tamás Terlaky.
3. “A Quantum Dual Logarithmic Barrier for Linear Optimization”, **Zeguan Wu**, Pouya Sampourmahani, Mohammadhossein Mohammadisiahroudi, and Tamás Terlaky.

PUBLICATION

1. “An Inexact Feasible Quantum Interior Point Method for Linearly Constrained Quadratic Optimization”, Entropy, **Zeguan Wu**, Mohammadhossein Mohammadisiahroudi, Brandon Augustino, Xiu Yang, and Tamás Terlaky.
2. “Quantum-enhanced Regression Analysis Using State-of-the-art QLSAs and QIPMs”, ACM/IEEE Quantum Workshop, Mohammadhossein Mohammadisiahroudi, **Zeguan Wu**, Brandon Augustino, Arielle Carr and Tamás Terlaky.

CONFERENCE

1. “Inexact Feasible Quantum Interior Point Method for Linearly Constrained Quadratic Optimization”, Talk, IISE Annual 2023, New Orleans, LA.
2. “Inexact Feasible Quantum Interior Point Method for Linearly Constrained Quadratic Optimization”, Talk, Mid-Atlantic NA-Day 2022, Philadelphia, PA.

3. “*Preconditioned Quantum Interior Point Method for Linear Optimization*”, Flash Talk, INFORMS Annual 2022, Indianapolis, IN.
4. “*Preconditioned Quantum Interior Point Method for Linear Optimization*”, Poster, ICCOPT & MOPTA 2022, Bethlehem, PA.

TEACHING
EXPERIENCE

2023S ISE 111 Engineering Probability, TA
 2022F ISE 406 Introduction to Mathematical Optimization, TA
 2022S ISE 305/404 Simulation, TA
 2021F ISE 365/465 Applied Data Mining, TA

ACADEMIC
SERVICE

Session Chair, INFORMS Annual, 2023
 Session Chair, IISE Annual, 2023
 Vice President, Lehigh University INFORMS Student Chapter, 2022-2023
 Volunteer, ICCOPT Conference, 2022
 Reviewer for EJOR
 Member of INFORMS (2022-now), SIAM (2023-now), and IISE (2023-now)

AWARD

Rossin Professional Development Program

COMPUTER SKILLS

Qiskit, Python, MATLAB, C++, GAMS, Cplex, GuRoBi, AMPL

LANGUAGES

Mandarin (*native*), English (*professional proficiency*)