ZIYU HE

hsl58@txstate.edu | . Personal Website | . Google Scholar | . LinkedIn
McCoy Hall 446 | 601 University Dr. | San Marcos, TX 78666

EMPLOYMENT

McCoy College of Business, Texas State University — *San Marcos, TX*
Assistant Professor, Department of Information Systems and Analytics — *2026 – Present*

Marshall School of Business, University of Southern California — *Los Angeles, CA*
Postdoctoral Scholar Research Associate — *2023 – 2026*
– *Affiliated with Randall R. Kendrick Global Supply Chain Institute* | **Advisors:** Vishal Gupta, Nick Vyas

EDUCATION

University of Southern California — *Los Angeles, CA*
Doctor of Philosophy in Industrial and Systems Engineering — *2017 - 2023*
– **Thesis**: Modern Nonconvex Optimization: Parametric Extensions and Stochastic Programming
– **Advisor**: Jong-Shi Pang

Columbia University — *New York, NY*
Master of Science in Electrical Engineering — *2015 - 2017*

Zhejiang University — *Hangzhou, China*
Bachelor of Engineering in Electrical Engineering — *2011 - 2015*

RESEARCH INTERESTS

Data-driven optimization for machine learning and supply chain management, with applications in operational resilience, smart manufacturing, microgrid management, and content-driven e-commerce.

PUBLICATIONS AND UNDER REVIEW PAPERS

All authorship is alphabetical unless otherwise indicated.

– V. Gupta, **Z. He** and N. Vyas, "3D-Printing for Supply Chain Resilience", **Manufacturing & Service Operations Management** (under review) (2025).

– **Z. He**, J. Liu and J-S. Pang, "Logarithmic Integral Optimization via Adaptive Importance Sampling Based Surrogation Methods", **Mathematical Programming** 1-51 (2025).

– **Z. He**, A. Gomez, Y. Cui, S. Han and J-S. Pang, "Comparing Solution Paths of Sparse Quadratic Minimization with a Stieltjes Matrix", **Mathematical Programming**, 204(1), 517-566 (2024).

– A. Gomez, **Z. He** and J-S. Pang, "Linear-step Solvability of Some Folded Concave and Singly-parametric Optimization Problems", **Mathematical Programming**, 198(2), 1339-1380 (2023).

– Y. Cui, **Z. He** and J-S. Pang, "Non-convex Robust Programming via Value-Function Optimization", **Computational Optimization and Applications**, 78(2), 411-450 (2021).

– Y. Cui, **Z. He** and J-S. Pang, "Multi-composite Non-Convex Optimization for Training Deep Neural Networks", **SIAM Journal on Optimization**, 30(2), 1693–1723 (2020).

– K. Chen, K. Chen, Q. Wang, **Z. He**, J. Hu and J. He, "Short-Term Load Forecasting with Deep Residual Networks", **IEEE Transactions on Smart Grid**, 10(4), 3943-3952 (2018).

– K. Chen, Q. Wang, **Z. He**, K. Chen, J. Hu, and J. He, "Convolutional Sequence to Sequence Non-intrusive Load Monitoring", **the Journal of Engineering**, 2018(17), 1860-1864.

– K. Chen, **Z. He**, S-X. Wang, J. Hu, L. Li and J. He, "Learning-Based Data Analytics: Moving Towards Transparent Power Grids", **CSEE Journal of Power and Energy Systems**, 4(1), 67-82 (2018).

IN-PROGRESS PAPERS

– A. Daw, V. Gupta, **Z. He**, Y. Ouyang and N. Vyas, "Print a little, produce a lot: 3D printing in large scale assembly systems", in preparation (2025).

– **Z. He**, Y. Zhou and M. Sumida, "Optimal commercialization policy for content-driven e-commerce platforms", in preparation (2025).

INVITED TALKS

"3D-Printing for Supply Chain Resilience"
INFORMS Annual Meeting, *Job Market Showcase* — *Oct. 2025 in Atlanta, GA*
SoCal OR/OM Day — *May 2025 in Irvine, CA*

"Analytics for Supply Chain Resilience Strategies Using 3D-Printing Backup"
INFORMS Annual Meeting — *Oct. 2024 in Seattle, WA*

"Logarithmic Integral Optimization via Adaptive Importance Sampling Based Surrogation"
INFORMS Annual Meeting — *Oct. 2023 in Phoenix, AZ*

"Comparing Solution Paths of Sparse Quadratic Minimization with a Stieltjes Matrix"
SIAM Conference on Optimization — *Jun. 2023 in Seattle, WA*
INFORMS Annual Meeting — *Oct. 2022 in Indianapolis, IN*
INFORMS Optimization Society Conference — *Mar. 2022 in Greenville, SC*

"Multi-composite Non-Convex Optimization for Training Deep Neural Networks"
INFORMS Annual Meeting — *Oct. 2019 in Seattle, WA*

TEACHING EXPERIENCE

TEXAS STATE UNIVERSITY

ANLY 3314 Decision Analytics, *Primary Instructor* — *Fall 2026*
– Undergraduate course (30+ students) covering the mathematical foundations of optimization and their application to business decision-making and data analytics, using modern solvers in Excel and Python.
– Developed all lectures, assignments, quizzes, final project, and computation lab materials, including Python tutorials; ran hands-on lab sessions and weekly office hours.

ANLY 5338 Operations Management, *Primary Instructor* — *Fall 2026*
– Core course in the MBA programs (30+ students), covering classic decision problems and modern analytical methods in operations management.
– Developed course materials: lectures, case assignments, exams, and computation labs, including Python tutorials; ran hands-on lab sessions and weekly office hours.

UNIVERSITY OF SOUTHERN CALIFORNIA

BUAD 311 Operations Management, *Primary Instructor* — *Spring 2025, 2026*
– Core undergraduate course for all business majors (72 students), covering fundamental analytical techniques for operations management.
– Developed lectures; coordinated with the teaching team on quizzes and exams; held weekly office hours and one-on-one tutoring.

ISE 630 Foundations of Optimization, *Teaching Assistant* — *Spring 2022*
– PhD core course. Independently held office hours, graded assignments and exams, and provided solutions.

ISE 631 Linear Programming, *Teaching Assistant* — *Fall 2021, 2022*
– PhD core course. Coordinated with the instructor on exams, held office hours, provided homework and exam solutions.

HONORS AND AWARDS

USC Graduate School Fellowship: *2017-2018*
– Merit-based fellowship for selected PhD students at USC Viterbi School of Engineering.

Zhejiang University Outstanding Undergraduate Thesis Award *2015*
– Selected among the top 100 theses (top 2%) out of 5,000+ undergraduates in the Class of 2015.

SERVICE

Reviewer for Journals: Mathematical Programming Computation, Journal of Global Optimization, Computational Optimization and Applications, Optimization Letters, Annals of Applied Statistics.