

# Suhan Zhong

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## Education and Employment

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### Texas A&M University

Visiting Assistant Professor, Department of Mathematics

Mentor: Prof. Jianxin Zhou

College Station

August 2022

### UC San Diego

Ph.D. in Mathematics, Department of Mathematics

Supervisor: Prof. Jiawang Nie

San Diego

June 2022

### Xi'an Jiaotong University

B.S. Mathematics, Department of Mathematics

China

June 2017

## Research Topics

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Stochastic optimization, data science optimization, bilevel optimization, equilibrium problems, polynomial optimization.

## Research Papers

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- 1: J. Nie, L. Yang and S. Zhong, Stochastic polynomial optimization, *Optim. Methods Softw.*, 35.2 (2020): 329–347.
- 2: J. Nie, L. Wang, J. J. Ye and S. Zhong, A Lagrange multiplier expression method for bilevel polynomial optimization, *SIAM J. Optim.*, 31.3 (2021): 2368–2395.
- 3: J. Nie, L. Yang, S. Zhong and G. Zhou, Distributionally robust optimization with moment ambiguity sets, *J. Sci. Comput.*, 94.12 (2023): 1–27.
- 4: J. Nie, X. Tang and S. Zhong, Rational generalized Nash equilibrium problems, *SIAM J. Optim.*, 33.3 (2023): 1587–1620.
- 5: J. Nie and S. Zhong, Loss functions for finite sets, *Comput. Optim. Appl.*, 84 (2023): 421–447.
- 6: J. Nie, X. Tang, Z. Yang and S. Zhong, Dehomogenization for completely positive tensors, *Numer. Algebra Control Optim.*, 13.2 (2023): 340–363.
- 7: L. Yang, Y. Yang and S. Zhong, Global optimization for the portfolio selection model with high-order moments, *J. Oper. Res. Soc. China*, 2023. <https://doi.org/10.1007/s40305-023-00519-8>
- 8: B. Rao, L. Yang, G. Zhou and S. Zhong, Robust approximation of chance constrained optimization with polynomial perturbation, *Preprint*, 2022. [arXiv:2211.13395](https://arxiv.org/abs/2211.13395)
- 9: J. Nie, J. J. Ye and S. Zhong, PLMEs and Disjunctive Decompositions for Bilevel Optimization, *Preprint*, 2023. [arXiv:2304.00695](https://arxiv.org/abs/2304.00695)
- 10: J. Nie and S. Zhong, Distributionally Robust Optimization with Polynomial Robust Constraints, *Preprint*, 2023. [arXiv:2308.15591](https://arxiv.org/abs/2308.15591)
- 11: S. Zhong, Y. Cui and J. Nie, Solving Two-Stage Stochastic Programs with Polynomial Lower Bound Functions, *Preprint*, 2023. [arXiv:2310.04243](https://arxiv.org/abs/2310.04243)
- 12: S. Zhong and J. Zhou, A new working set method for nonlinear inequality constrained minimization, *Preprint*, 2023. [arxiv.org/abs/2310.13199](https://arxiv.org/abs/2310.13199)

## Awards and Honors

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AIM SQuaREs on <i>GNEPs and Bilevel Optimization</i>	2023
SIAM Travel Award for the SIAM Conference on Optimization (OP23)	2023
SIAM Travel Award for the SIAM Conference on Mathematics of Data Science (MDS22)	2022
Powell Dissertation Fellowship, UC San Diego	2022
Sigma Delta Epsilon Tau Chapter Fellowship, UC San Diego	2021
SIAM Travel Award for the SIAM Conference on Applied Algebraic Geometry (AG21)	2021
James B.Ax Graduate Fellowship, UC San Diego	2017

## Talks

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POP23 - Future Trends in Polynomial OPTimization	November 2023
TAMU AMUSE Seminar. <i>Distributionally Robust Optimization</i>	September 2023
TAMU CAMDA Seminar. <i>Loss Functions for Finite Sets</i>	September 2023
SIAM Conference on Optimization. <i>Bilevel Polynomial Optimization</i>	June 2023
UCSD Optimization and Data Science Seminar. <i>Chance-Constrained Optimization</i>	May 2023
Seminar on Geometry, Probability, and Computing. <i>Polynomial DRO</i>	April 2023
East Coast Optimization Meeting 2023. <i>Distributionally Robust Optimization</i>	April 2023
Texas Women in Math Symposium 2023. <i>Loss Functions for Finite Sets</i>	March 2023
TAMU Geometry Seminar. <i>Solving NEPs of Polynomials</i>	January 2023
TAMU Postdoc Talks/Lunch. <i>Rational GNEPs</i>	October 2022
Inform's Annual Meeting 2022. <i>Rational GNEPs</i>	October 2022
AMA Colloquium Series on Young Scholars in Optimization and Data Science	October 2022
TAMU Student/Postdoc Working Geometry Seminar. <i>Completely Positive Tensors</i>	October 2022
SIAM Conference on Mathematics of Data Science (MDS22)	September 2022
ICCOPT 2022. <i>Loss Functions for Finite Sets</i>	July 2022
Cornell PEESE Group Meeting. <i>Bilevel Polynomial Optimization</i>	December 2021
SIAM Conference on Applied Algebraic Geometry (AG21)	August 2021
European Conference on Operational Research (EURO 2021)	July 2021
UCSD CCoM Seminar. <i>Bilevel Polynomial Optimization</i>	January 2021
UCSD Optimization and Data Science Seminar.	2019–2022

## Teaching

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### Instructorship:

MATH 251. Engineering Mathematics III	Fall 2023
MATH 311. Topics in Applied Mathematics I	Fall 2022 and Spring 2023
MATH 4C. Precalculus for Sci & Engr	Winter 2021
MATH 20D. Intro/Differential Equations	Summer Session 2, 2020

### Teaching Assistantship:

MATH 170A. Introduction to Numerical Analysis: Linear Algebra    *Fall 2018 and Summer Session 2, 2021*  
MATH 152. Applicable Mathematics and Computing                                *Spring 2018 and Winter 2020*  
MATH 102. Applied Linear Algebra                                *Fall 2019-2020, Spring 2019-2021, Winter 2018 and 2020*

## **Activities**

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Instructor of Math Circle, TAMU    *September 2023-present*  
The Center for Approximation and Mathematical Data Analytics, TAMU    *September 2022-present*  
Supervising junior scholars in UCSD    *July 2022*  
UCSD Optimization and Data Science Seminar    *2019-present*