

Bowen Li

Curriculum Vitae

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Education

- Sep. 2021 – now **Ph.D Candidate**, *Computational Mathematics*, Academy of Mathematics and Systems Science, Chinese Academy of Sciences
- Sep. 2017 – Jun. 2021 **B.S.**, *Mathematics and Applied Mathematics*, Taishan College, Shandong University

Research Interests

Optimization and control, machine learning, and numerical analysis.

Publications

- Bowen Li and Bin Shi, *Numerical Solution for Nonlinear 4D Variational Data Assimilation (4D-Var) via ADMM*, Journal of Computational Physics, 2025.
- Bowen Li, Bin Shi, and Ya-xiang Yuan, *Linear convergence of Forward-Backward Accelerated Algorithms without Knowledge of the Modulus of Strong Convexity*, SIAM Journal on Optimization, 2024, 34(2):2150-2168.
- Bowen Li, Bin Shi, and Ya-xiang Yuan, *Linear Convergence of ISTA and FISTA*, Journal of the Operations Research Society of China, 2024.

Preprints

- Bowen Li and Ya-xiang Yuan, *Convergent Proximal Multiblock ADMM for Nonconvex Dynamics-Constrained Optimization*, arXiv:2506.17405.
- Bowen Li and Bin Shi, *Understanding the PDHG Algorithm via High-Resolution Differential Equations*, arXiv:2403.11139.
- Bowen Li and Bin Shi, *Understanding the ADMM Algorithm via High-Resolution Differential Equations*, arXiv:2401.07096.
- Bowen Li, Bin Shi, and Ya-xiang Yuan, *Proximal Subgradient Norm Minimization of ISTA and FISTA*, arXiv:2211.01610.

Professional Experience

- Journal Review Mathematical Programming
- Conference Review NeurIPS 2023, ICML 2024, ICLR 2025, AAAI 2025
- Conference Talk ICCOPT 2025

Exchange Experience

- Dec. 2024 – Nov. 2025 **Visiting Student**, Princeton University, Princeton, United States

Jan. 2020 – Jul. 2020 **Exchange Student**, *Georgia Institute of Technology*, Atlanta, United States

Teaching Experience

Sep. 2019 – Dec. 2019 **Teaching Assistant**, *Department of Taishan College*, Shandong University, Course: Abstract Algebra, Instructor: Prof. Shoumin Liu

Jul. 2019 – Oct. 2019 **Teaching Assistant**, *Beijing Xiaoyuan Education Technology co.LTD*, Online course about Linear Algebra and Mathematical Analysis of Higher Level

Awards and Prizes

Sep. 2025 National Scholarship

Sep. 2024 Hua Luogeng Scholarship, Academy of Mathematics and Systems Science, Chinese Academy of Sciences

Sep. 2021 Hua Luogeng Scholarship, Academy of Mathematics and Systems Science, Chinese Academy of Sciences

Jun. 2021 Dean's Scholarship of Taishan College, Shandong University

Mar. 2019 First prize, National Mathematics Competition for College Students, Ranked fifth out of around 300 finalists

Sep. 2019 National Scholarship

Sep. 2019 First prize, Academic Scholarship

Sep. 2019 Merit Student of Shandong University

Sep. 2019 Academic Special Merit Scholarship

Sep. 2018 First prize, Academic Scholarship

Sep. 2018 Social Enterprise Scholarship

Standard Tests

Aug. 2023 **TOEFL**, Total 99 (Listening 29, Speaking 21, Reading 28, Writing 21)

Aug. 2019 **IELTS**, Total 7.0 (Listening 8.5, Speaking 6.0, Reading 7.5, Writing 6.0)

Skills

Programming Languages C, Python, Matlab

GitHub Repository <https://github.com/bowenyl/4D-Var-via-ADMM>

Tool Latex