(+86) 135-3037-6874
hanbinyang1228@gmail.com
https://yang-hanbin.github.io

Hanbin Yang PH.D.

Education

The Chinese University of Hong Kong, Shenzhen (CUHKSZ) Shenzhen, China
School of Data Science, Ph.D. in Data Science 2020 - 2025

- **GPA:** 3.80/4.00.
- **Research area:** Optimization under Uncertainty, Stochastic Modeling, Applications in Power Systems

Southern University of Science and Technology (SUSTech) Shenzhen, China
Department of Mathematics, Bachelor of Science in Statistics 2016 - 2020

- **GPA:** 3.71/4.00 **major GPA:** 3.84/4.0.
- **Related Courses:** Statistics, Measure Theory, Stochastic Differentiable Equations

Georgia Institute of Technology Atlanta, USA
Summer Exchange Program, Exchange Student. Summer 2018

Professional Experience

Hong Kong University of Science and Technology (HKUST) Hong Kong, China
Business School, Research Fellow 2025.09-present

- **Advisor:** Prof. Guodong Lyu
- **Research area:** Operations Research, AI-based Algorithm Design, Optimization

Visitor at Cornell Tech, Cornell University New York, USA
Mentors: Prof. Rui Chen and Prof. Andrea Lodi 2023.06-2023.08

- Developed an automated decomposition algorithm for large-scale mixed-integer programs.

Internships

HUAWEI Cloud Shenzhen, China
Mentors: Dr. Jianshu Li and Dr. Muming Yang 2024.08 - 2024.11

- Developed advanced solution algorithms for large-scale unit commitment problems in real-world scenarios, including the design and testing of three strategies using classical IEEE datasets.
- Implemented a hybrid Lagrangian Relaxation + Benders decomposition approach, helping the project team identify potential algorithmic solutions.

Alibaba DAMO Academy—DI LAB Hangzhou, China
Mentors: Dr. Guanglei Wang and Mou Sun 2022.06 - 2022.10

- Provided a geometric characterization of relationship between Lagrangian cuts and the covnex envelope of value functions.
- Demonstrated the effectiveness of the Lagrangian cut method and proposed three enhancement techniques to improve its performance. Numerical experiments show significant performance improvement.

Publications

1. H-B. Yang, N. Rhodes, H. Yang, L. Roald, and L. Ntaimo. "Multi-Period Power System Risk Minimization Under Wildfire Disruptions," in IEEE Transactions on Power Systems, vol. 39, no. 5, pp. 6305-6318, Sept. 2024
2. H-B. Yang, N. Rhodes, H. Yang, L. Roald, and L. Ntaimo. "Multistage Stochastic Program for Mitigating Power System Risks under Wildfire Disruptions," in Proceedings of the 23rd Power Systems Computation Conference (PSCC 2024), Electric Power Systems Research, 234:110773.

Working Papers

1. H-B. Yang, L. Yang, J. Pan, Y. Wang. "Reinforcement Learning for Branch-and-Cutting-Plane-Tree in Mixed-Integer Programming," submitted.
2. H-B. Yang, H. Yang. "Globally Converging Algorithm for Multistage Stochastic Mixed-Integer Programs via Enhanced Lagrangian Cuts," submitted to Operations Research. [Optimization-Online]
3. Y. Zhou, H-B. Yang, and T. Morstyn. "Faster Inner Convex Approximation to Wasserstein Joint Chance Constrained Power System Dispatch," submitted to IEEE Transactions on Power Systems.[arXiv]
4. H-B. Yang, H. Yang. "Disjunctive Benders Cuts in Multistage Stochastic Mixed-Integer Programming," to be submitted.
5. Y. Zhou, Y. Xia, H-B. Yang, and T. Morstyn. "Strengthened and Faster Linear Approximation to Joint Chance Constraints with Wasserstein Ambiguity," minor revision INFORMS Journal on Computing. [arXiv]

Awards

- Duan Yongping Travel Award for Outstanding Research (2023) CUHKSZ
- The Award for Outstanding Graduates (2020) SUSTech
- Scholarship for Outstanding Students (2017, 2018) SUSTech

Invited Talks

1. H-B. Yang, N. Rhodes, H. Yang, L. Roald, L. Ntaimo, "Multi-period Power System Risk Minimization under Wildfire Disruptions":
   (a) INFORMS Annual Meeting, Online, June 6th, 2022.
   (b) IEEE Student Association at CUHKSZ, Shenzhen, Guangdong, Sept. 22nd, 2023.
2. H-B. Yang, H. Yang, "Enhancement Techniques for Lagrangian Cut":
   (a) Alibaba DAMO Academy, Hangzhou, Zhejiang, Sept. 23rd, 2022.
   (b) International Conference on Stochastic Programming, Davis, CA, July 17th, 2023.
3. H-B. Yang, N. Rhodes, H. Yang, L. Roald, L. Ntaimo, "Multistage Stochastic Program for Mitigating Power System Risks under Wildfire Disruptions":
   (a) INFORMS Annual Meeting, Phoenix, AZ, October 15th, 2023 (Session chair).
   (b) 23rd Power Systems Computation Conference (PSCC 2024), Paris, France, June 6th 2024.
   (c) INFORMS Annual Meeting, Seattle, Oct. 2024.
4. H-B. Yang, H. Yang, "Efficient Cutting-Plane Methods for Multistage Stochastic Mixed-Integer Programming":
   (a) 25th International Symposium on Mathematical Programming, Montreal, Canada, July 25th, 2024.
   (b) Annual Conference of the Data Science and Operations Intelligence Chapter, Operations Research Society of China, Beijing, Sept. 15th 2024.
   (c) International Conference on Stochastic Programming, Paris, France, Aug 1st, 2025.
   (d) The 2nd Management Forum, Xi'an, China, Dec 6th, 2025.
5. H-B. Yang, H. Yang, "Globally Converging Algorithm for Multistage Stochastic Mixed-Integer Programs":
   (a) INFORMS Annual Meeting, Seattle, Oct. 2024 (Session chair).
   (b) Global Forum for Young Mathematicians, Shenzhen, China, Nov 29th, 2025.

Teaching

Instructor: Probability and Statistics (Summer 2022, 2023, 2024);
Calculus, Linear Algebra, and Probability (Summer 2025)

Teaching Assistant: DDA6112 Stochastic Optimization (Spring 2024);
MFE5100 Optimization (Spring 2022);
MAT3007 Optimization (Fall 2021, 2022);
STA4005 Survival Analysis (Spring 2021);
STA4001 Stochastic Processes (Fall 2020);
Multivariate Regression Analysis (Spring 2020);
Linear Regression (Fall 2019);

Academic Services

Session Chair for: INFORMS Annual Meeting (2023, 2024)

Reviewers for: *Power System Computation Conference*;
IEEE Transactions on Energy Markets, Policy, and Regulation;
Automatica;
Electric Power Systems Research

Skills

Languages: Chinese, English

Programming: `Python`, `Julia`, `R`, `MATLAB`, `Java`

Technical: Linear/integer/stochastic programming, statistical analysis, stochastic analysis, simulation implementation, SQL