Du CHEN (陈督)

PhD Candidate in Operations Management | [**Google Scholar**] [**LinkedIn**] [**GitHub**] [**Personal Page**]

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Research Interests

Topics: privacy-aware operations in supply chains, online platforms, and public policy
Methodologies: convex optimization, differential privacy, statistical learning

Education

Nanyang Technological University, Singapore
PhD in Operations Management   2021 – 2026 (expected)
Thesis: Privacy-Aware Operations Management: Design and Analysis of Algorithms with Differential Privacy

Shanghai Jiao Tong University, Shanghai, China
MSc in Management Science and Engineering   2017 – 2021

Xi'an University of Electronic Science and Technology, Xi'an, China
BSc in Information Management and Information Systems   2013 – 2017

Working Papers

1. **Du Chen**, Geoffrey A. Chua[*]. **An Algorithmic Approach to Managing Supply Chain Data Security: The Differentially Private Newsvendor** [Preprint]
   Under Minor Revision at Operations Research (Machine Learning and Data Science Department)

2. **Du Chen**, Geoffrey A. Chua, Victor Richmond R. Jose[*]. **Joint Differential Privacy for Resource Allocation: Protection Capability, Price of Privacy, Algorithm Design, and Policy Implications** [Preprint]
   Under 2nd-round review at Management Science (Optimization Department)
   ✧ Winner of the Best Paper Award at Singapore Rising Scholars Conference 2025

3. **Du Chen**, Youhua (Frank) Chen, Geoffrey A. Chua. **Design and Analysis of Algorithms for Privacy-Aware Online Allocation under Heterogeneous Privacy Expectations**
   In final preparation for submission to Operations Research

Selected Publications

1. **Du Chen[*]**, Geoffrey A. Chua. **Exploiting Hidden Symmetry to Improve Objective Perturbation for DP Linear Learners with a Nonsmooth L1-Norm** [Paper]
   The Thirteenth International Conference on Learning Representations (ICLR 2025)

2. **Du Chen[*]**, Geoffrey A. Chua. **Noisy Dual Mirror Descent: A Near Optimal Algorithm for Jointly-DP Convex Resource Allocation** [Paper]
   Advances in Neural Information Processing Systems 2024 (NeurIPS 2024)

3. **Du Chen[*]**, Geoffrey A. Chua. **Differentially Private Stochastic Convex Optimization under a Quantile Loss Function** [Paper]
   International Conference on Machine Learning 2023 (ICML 2023)

Presentations

- **An Algorithmic Approach to Managing Supply Chain Data Security: The Differentially Private Newsvendor**
  - 2025-07, 2025 INFORMS International Conference, Singapore
  - 2024-09, Singapore Analytics and Operations Day, Singapore
  - 2024-07, The 33rd European Conference on Operational Research (EURO 2024), Copenhagen, Denmark
  - 2024-01, The 14th POMS-HK International Conference (POMS-HK 2024), Hong Kong SAR, China
  - 2023-07, 2023 POMS International Conference in China (POMS-China 2023), Hangzhou, China
  - 2023-01, The 13th POMS-HK International Conference (POMS-HK 2023), Hong Kong SAR, China

- **Joint Differential Privacy for Resource Allocation: Protection Capability, Price of Privacy, Algorithm Design, and Policy Implications**
  - 2025-10, 2025 INFORMS Annual Meeting, Atlanta, USA **(Session info: SB09, 11 AM)**
  - 2025-07, 2025 INFORMS International Conference, Singapore
  - 2025-06, 2025 INFORMS MSOM Conference, London, UK
  - 2025-06, The 34th European Conference on Operational Research (EURO 2025), Leeds, UK
  - 2025-05, Singapore Rising Scholars Conference, Singapore
  - 2025-01, The 15th POMS-HK International Conference (POMS-HK 2025), Hong Kong SAR, China
  - 2024-10, 2024 INFORMS Annual Meeting, Seattle, USA

- **Design and Analysis of Algorithms for Privacy-Aware Online Allocation with Privacy Expectation Heterogeneity**
  - 2025-10, 2025 INFORMS Annual Meeting, Atlanta, USA **(Session info: TE54, 4:15 PM)**

- **Exploiting Hidden Symmetry to Improve Objective Perturbation for DP Linear Learners with a Nonsmooth L1-Norm**
  - 2025-04, ICLR 2025, Singapore

- **Noisy Dual Mirror Descent: A Near Optimal Algorithm for Jointly-DP Convex Resource Allocation**
  - 2024-12, NeurIPS 2024, Vancouver, Canada

- **Differentially Private Stochastic Convex Optimization under a Quantile Loss Function**
  - 2023-07, ICML 2023, Hawaii, USA

Teaching Experience

Nanyang Technological University Singapore
- **Instructor**
  Statistics & Analysis (BSc in Business, Core), 2025 Spring
  - ◇ Class size: 25
  - ◇ Teaching evaluation: 4.4/5 (response rate:15/25)
  - ◇ Duties: Deliver lectures and lead in-person 2-hour weekly seminars. Topics cover basic probability theory and applied statistics for business undergrads
- **Teaching Assistant**
  Operations & Supply Chains (REP Programme), 2022 Fall, 2023 Fall, 2024 Fall
  Supply Chain Analytics (BSc in Business, Elective), 2023 Spring, 2024 Spring

Shanghai Jiao Tong University
- **Teaching Assistant**
  Dynamic Pricing & Revenue Management (Graduate Elective), 2020 Fall
  Stochastic Dynamic Programming (Graduate Elective), 2020 Fall
  Quantitative Analysis (DBA Core Course), 2019 Fall

Data, Model, Decision (International MBA Elective), 2018 Fall
- **Guest Lecturer**
Applied Business Modelling (Graduate Elective), 2019 Fall

Industry Experience

Alibaba Group, Hangzhou, China   2020.04 – 2020.07 / 2021.03 – 2021.07
Operations Research Algorithm Intern / Engineer

Meituan, Beijing, China   2020.07 – 2020.09
Algorithm Engineer Intern

Professional Service

Reviewer for
ICLR (2025), NeurIPS (2025)

Session Chair for
INFORMS MSOM Conference (2025)

References

Geoffrey A. Chua (advisor)
Associate Professor of Operations Management
Nanyang Business School, Nanyang Technological University Singapore, Singapore
Email: gbachua@ntu.edu.sg

Victor Richmond R. Jose
Professor of Operations and Analytics
McDonough School of Business, Georgetown University, Washington, DC, USA
Email: vrj2@georgetown.edu

Youhua (Frank) Chen
Chair Professor of Management Science
College of Business, City University of Hong Kong, Hong Kong SAR, China
Email: youhchen@cityu.edu.hk

Last updated: August 2025