Du CHEN (陈督)

PhD Candidate in Operations Management | [Google Scholar] [LinkedIn] [GitHub] [Personal Page]
ABS-04-037, 91 Nanyang Avenue, Singapore 639956   Email: chen1443@e.ntu.edu.sg

Research Interests

Topics: Data Privacy, 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** (Pending Code Submission; 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, INFORMS Job Market Showcase Session: SB09, 11 AM]
   - *Under 2ⁿᵈ-round review at **Management Science** (Optimization Department)*
     · Winner of the Best Paper Award at Singapore Rising Scholars Conference 2025
     · Awardee of the IFORS Travelling Fellowship ($500) at the APORS Youth Forum 2025

3. **Du Chen**, Youhua (Frank) Chen*, Geoffrey A. Chua. **Design and Analysis of Algorithms for Privacy-Aware Online Allocation under Heterogeneous Privacy Expectations** [Draft for job applications only, please do not distribute]
   - *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]
   - *The Thirty-eighth Annual Conference on Neural Information Processing Systems (NeurIPS 2024)*

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

Selected Presentations

- **An Algorithmic Approach to Managing Supply Chain Data Security: The Differentially Private Newsvendor**
  - 2025-07, 2025 INFORMS International Conference, Singapore
  - 2024-07, The 33rd European Conference on Operational Research, Copenhagen, Denmark
  - 2024-01, The 14th POMS-HK International Conference (POMS-HK 2024), Hong Kong, China
  - 2023-01, The 13th POMS-HK International Conference (POMS-HK 2023), Hong Kong, 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, Leeds, UK
  - 2025-05, Singapore Rising Scholars Conference, Singapore
  - 2024-10, 2024 INFORMS Annual Meeting, Seattle, USA

- **Design and Analysis of Algorithms for Privacy-Aware Online Allocation under Heterogeneous Privacy Expectations**
  - 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

Research Grants

- **Managing Data Security in Supply Chains: Algorithmic Approaches and Economic Implications**
  - MoE Singapore, Academic Research Fund Tier 1, SG$60,000, 2024-2027. PI: Geoffrey A. Chua
  - *I drafted the research proposal*

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
    ✧ Student Feedback: "*his lectures are well-structured, engaging, and thoughtfully delivered*", "*(he) talked about real-world applications well*", and "*his explanations are also very clear*"
  - **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), 2019 Fall
Data, Model, Decision (International MBA, Elective), 2018 Fall
- **Guest Lecturer**
Applied Business Modelling (Graduate, Elective), 2019 Fall

Teaching Case: Huan Zheng, Yuanzheng Ma, **Du Chen,** Stephan Vachon. "Goodbaby Group: The Upfront Warehouse Decision", 9B20D018, Ivey Publishing [Link]

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, 2026), NeurIPS (2025)

Session Chair for
INFORMS MSOM Conference (2025)

References

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

Victor Richmond R. Jose
Professor of Operations and Analytics; Operations & Analytics (OPAN) Area Chair
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, China
Email: youhchen@cityu.edu.hk

Last updated: 08 October 2025