Chaithanya Bandi

CONTACT INFORMATION

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RESEARCH INTERESTS

Robust Optimization, Data-driven Optimization, Operations Management, Healthcare Operations, Revenue Management, Risk Modeling

ACADEMIC APPOINTMENTS

National University of Singapore, Singapore
NUS Business School
Associate Professor of Analytics and Operations **2020**

Northwestern University, Evanstin, IL
Kellogg School of Management
Associate Professor of Operations **2017**
Assistant Professor of Operations **2014**
Donald P. Jacobs Scholar **2013**

EDUCATION

Massachusetts Institute of Technology, Cambridge, MA
Sloan School of Management – Operations Research Center
Ph.D in Operations Research **2013**
Dissertation Title: Tractable stochastic analysis in high dimensions via robust optimization

Indian Institute of Technology, Chennai(Madras), Chennai, India
Department of Computer Science and Engineering
B.Tech in Computer Science and Engineering, Operations Research (Minor) **2008**

FUNDING GRANTS

1. C. Bandi and Seyed Iravani. NSF award (#1826353) ($439,918.0) *Decision Flow Networks for Effective Classification in Service Systems.*

2. C.Bandi. PNNL Grant. No. 351306, NU: SP0043756 *Robust Optimization of Complex Infrastructural Networks with Applications to Power Grid.*

PUBLICATIONS

1. C. Bandi and Dimitris Bertsimas. Tractable stochastic analysis in high dimensions via robust optimization. **Mathematical programming**, 134(1):23–70, 2012.

2. C. Bandi, Dimitris Bertsimas, and Nataly Youssef. Robust queueing theory. **Operations Research**, 63(3):676–700, 2015.

3. C. Bandi and Dimitris Bertsimas. Optimal design for multi-item auctions: a robust optimization approach. **Mathematics of Operations Research**, 39(4):1012–1038, 2014.

4. C. Bandi and Dimitris Bertsimas. Robust option pricing. **European Journal of Operational Research**, 239(3):842–853, 2014.

5. C. Bandi, Dimitris Bertsimas, and Nataly Youssef. Robust Transient Analysis of Multi-server Queueing Systems and Feedforward Networks. **Queueing Systems**, Volume 89, Issue 3–4, pp 351–413.

6. C. Bandi, Nikolaos Trichakis, and Phebe Vayanos. Robust wait time estimation in resource allocation systems with an application to kidney allocation, **Management Science**, Volume 65, Issue 1, pp 152–187.

7. C. Bandi, Eojin Han, and Omid Nohadani. Sustainable Inventory with Robust Periodic-Affine Policies and Application to Medical Supply Chains, **to appear in Management Science**, 2018.

8. C. Bandi and Diwakar Gupta. Operating-room staffing and online scheduling, **to appear in M&SOM**, 2018.

9. Chaitanya Bandi, Dinesh Garg, Krishna Pal Singh Rathore, Sachin Garg, Krishna Prasad Chitrapura, and Sourangshu Bhattacharya. Dynamic pricing model for online advertising, **US Patent App. 12/683,658.**

10. C. Bandi and Ermin Wei. Fairness considerations in network flow problems. **2015 54th IEEE Conference on Decision and Control (CDC)**, pages 6909–6914. IEEE, 2015.

11. C. Bandi, Ermin Wei, and Yuanzhang Xiao. Efficiency of linear supply function bidding in electricity markets. **2015 49th Asilomar Conference on Signals, Systems and Computers**, pages 689–692. IEEE, 2015.

12. Chaithanya Bandi, Krishnamurthy Dvijotham, David Morton and Haoxiang Yang. Robust Optimization for Electricity Generation, **Accepted to appear in INFORMS Journal on Computing**, 2018.

Articles Under Review

13. C. Bandi, Eojin Han and Omid Nohadani. On Finite Adaptability in Two-stage Distributionally Robust Optimization, **R&R in Management Science**, 2019.

14. C. Bandi and Yam Huo. Robust Optimal Recommendations for Risk-aware Customers,**R&R in Management Science**, 2019.

15. Chaithanya Bandi, Dimitris Bertsimas and Dongning Guo. Optimal Channel Coding via Robust Optimization , **Minor Revision at IEEE Transactions in Information Theory**, 2018.

16. C. Bandi and Gar Goei Loke. Exploiting Hidden Convexity for Optimal Flow Control in Queueing Networks, **R&R in Operations Research**, 2019.

17. C. Bandi and Alexej Proskynitopoulos. Robust Queue Inference Engine, **R&R in Management Science**, 2019.

18. C. Bandi and Hojun Choi. Justice Delayed is Justice Denied: Optimizing the Flow Control at CARPLS legal help hotline, *under review at* **M&SOM**, 2018.

19. C. Bandi, Sunil Chopra and Sangho Shim. On the (near) Optimality of Extended Formulations for Multi-way Cut in Social Networks., **Under Revision**, 2019.

20. C. Bandi,Toni Moreno, Donald Ngwe and Zhiji Xu. The Effect of Payment Choices on Online Retail: Evidence from the 2016 Indian Demonetization, **R&R in Management Science**, 2019.

In Progress

21. C. Bandi, Shamal Lalvani and Yam Huo. Quantifying the Operational Cost of Blockchain via Robust Queueing Theory. – *in collaboration with IBM HyperLedger Team*

22. C. Bandi and Yam Huo. Inequity aware Robust Dynamic Pricing – *in collaboration with Myntra (Walmart) DataScience Team*

23. C. Bandi, Omar El Housni and Vineet Goyal. Performance of affine policies in multi-stage robust optimization .

24. C. Bandi, Jonathan Amar and Nikolaos Trichakis. Robust utility elicitation with product-driven adaptive questionnaire.

25. C. Bandi and Sivatheja Maguluri. Robust queueing approach to optimal control of fork-join and replication systems.

26. C. Bandi, Ejoin Han and Omid Nohadani. Uncovering Structure via Lifting: Generalized Policiesfor Multistage Robust Optimization.

27. C. Bandi and Sanjay Mehrotra. Regional Fairness in Kidney Allocation.

28. Chaithanya Bandi and Itai Gurvich. Characterizing global stability of queueing networks via robust optimization.

29. Chaithanya Bandi and Neha Sharma. Quantifying the Value of Centralization in Ridesharing Platforms.

Teaching Experience

Kellogg School Of Management

Teaching Faculty **2013 – present**

- Analytical Decision Modeling (OPNS 450) - Full time MBA (Winter 2014, 2015, 2016)
- Analytical Decision Modeling (OPNSM 450) - MSMS (Winter 2014, 2015, 2016)
- Analytical Decision Modeling (OPNSX 450) - Executive MBA (Winter 2015)
- Robust Optimization: Theory and Applications (OPNS 522) - Doctoral class (Fall 2016)

Massachusetts Institute of Technology

Teaching Assistant **2008 – present**

- 15.761 Intro to Operations Management (Global Operations MBA Core)
- 15.060 Data, Models, and Decisions (MBA Core)
- 15.071 The Analytics Edge (MBA Elective)