Deeksha Sinha

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Education

2015 - 2021   **Massachusetts Institute of Technology,** Cambridge, MA
PhD, Operations Research; GPA: 5.0/5.0
Thesis: *Optimization for online platforms*

2009 - 2014   **Indian Institute of Technology Bombay**, Mumbai, India
Masters and Bachelors in Technology in Electrical Engineering , Minor in Computer Science
GPA: 9.32/10; Thesis: *Sleep-Wake Up Mechanisms for Cellular Heterogeneous Networks*

2012   **National University of Singapore,** Singapore
(Fall)   Visiting student, GPA: 4.83/5

Published and Working Papers

Healthcare   "*Preventing Opioid Overdose: From Prediction to Operationalization*" with J. O. Jonasson, N. Kaw, N.
Operations   Trichakis, A. Chen, J. Conte, A. Restaino, S. Volpe (under review)

"*The Limits to Learning a Diffusion Model*" with J. Baek, V. F. Farias, A. Georgescu, R. Levi, T. Peng,
J. Wilde, A. Zheng (under review)

Online   "*Multi-armed Bandits with Cost Subsidy*" with K.A. Sankararama, A. Kazerouni, V. Avadhanula,
Platforms   International Conference on Artificial Intelligence and Statistics, 2021
-    Featured in Facebook research blog

"*Optimizing offer sets in sub-linear time*" with V.F. Farias, A.A. Li, ACM Conference on Economic
and Computation, 2020 (journal version under review)
-    Honorable mention in Jeff McGill Student Paper Award

"*Recommendations under Multi-Product Purchase Behavior*" with T. Tulabandhula ,P. Patidar,
Companion Proceedings of the Web Conference 2020 (journal version under review)

"*Optimizing Revenue while showing Relevant Assortments at Scale*" with T. Tulabandhula and S.
Karra , NIPS workshop on Nearest Neighbor Methods, 2017 (journal version under review)

"*Near Optimal AB testing*" with N. Bhat, V.F. Farias, C.C. Moallemi, Management Science, 2019

Agricultural   "*Interest Subvention for Crop Loans in India: Win-Win or Win-Lose*" with D. Bhanot, V.F. Farias (to be
Lending   submitted)

Others   "*Load Dependent Optimal ON-OFF Policies in Cellular Heterogeneous Networks*", with V. Kavitha and
Abhay Karandikar, submitted to 5th International Workshop on Indoor and Outdoor Small Cells,
Wiopt 2014.
-    Best Paper Award at 5th International Workshop on Indoor and Outdoor Small Cell**s**

"nPlug: An Autonomous Peak Load Controller", with T. Ganu, D.P. Seetharam, V. Arya, J. Hazra, R. Kunnath, L.C. De Silva, S.A. Husain and S. Kalyanaraman, submitted IEEE Journal on Selected Areas in Communication, July, 2013.

Work Experience

2020
(Summer)
Facebook Inc., Menlo Park, CA
Research Scientist Intern, Core Data Science
Developed algorithms for routing text messages leading to significant cost savings

2017
(Summer)
Target Corporation, Minneapolis
Intern, Revenue Management
Built latent class choice models for predicting products purchase by different population groups

2016
(Winter)
Xerox Research Centre India, Bangalore, India
Intern, Revenue Management
Worked on algorithms for fast assortment optimization over arbitrary feasible sets

2014 - 2015
Deutsche Bank, Mumbai, India
Quant Analyst, Equity Product Development Team
Developed machine learning based multiday unwind and hedging strategies

2012
(Summer)
IBM India Research Lab, Bangalore, India
Intern, nPlug Scheduling Algorithms for Electric Vehicles and Inverters
Worked on scheduling algorithms for home devices to ensure constant load on electrical grid

Talks

Preventing Opioid Overdose: From Prediction to Operationalization
INFORMS Healthcare Conference (virtual), 2021; INFORMS Annual Meeting, 2021, Anaheim (USA)

Interest Subvention for Crop Loans in India: Win-Win or Win-Lose
POMS 31st Annual Conference, 2021 (virtual); ISB OM Seminar, 2021 (virtual); INFORMS Annual Meeting, 2019, Seattle (USA)

Recommendations under Multi-Product Purchase Behavior
Manufacturing and Service Operations Management Conference 2021 (Special Interest Group), 2020 (virtual); INFORMS DMDA Workshop, 2020 (virtual); ORC Student Seminar, Fall 2020 (virtual)

Optimizing offer sets in sub-linear time
INFORMS Annual Meeting, 2020 (virtual); INFORMS Annual Meeting, 2017, Houston (USA); INFORMS Revenue Management & Pricing Section Conference, 2017, Amsterdam (Netherlands); 5th ISB-POMS Workshop, 2017, Hyderabad (India)

Optimizing Revenue while showing Relevant Assortments at Scale
INFORMS Annual Meeting, 2016, Nashville (USA); 6th ISB-POMS Workshop, 2018, Hyderabad (India)

Detecting Early Stage Cancer using Liquid Biopsy
INFORMS Annual Meeting, 2018, Phoenix (USA)

Load Dependent Optimal ON-OFF Policies in Cellular Heterogeneous Networks
12th International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt), 2014, Hammamet (Tunisia)

Teaching Experience

Massachusetts Institute of Technology, Cambridge, MA
Teaching Assistant

2016, 2018,2019	Introduction to Operations Management
2017	Analytics of Operations Management

Indian Institute of Technology Bombay, Mumbai, India
Teaching Assistant

2014	Probability and Random Processes
2013	Communication Systems
2012, 2013	Data Analysis and Interpretation

Leadership Experience

2019	Organizer, Operations Research Centre Seminar, MIT
2016-2018	Member, Academic, Research and Careers Committee, MIT
2016-2017	INFORMS Officer and GWAMIT Departmental Representative, MIT
2013-2014	President, ShARE IITB
2011-2012	Internship Coordinator, Practical Training Committee, IITB
2010-2011	Vice President, Campus Radio, IITB

Honors and Awards

2020	Honorable mention in Jeff McGill Student Paper Award
2014	Best Paper Award at 5th International Workshop on Indoor and Outdoor Small Cells.
2014	Undergraduate Research Award
2012	Honda Young Engineer and Scientist Award (1 of 12 awardees in India)
2012	Temasek Foundation Leadership Enrichment and Regional Networking Award (1 of 3 awardees in India)
2009	Dhirubhai Ambani Scholarship

Skills and Activities

Technical Skills: Python, MATLAB, C++, Scilab, LaTeX, q, SQL, Django
Certification: CFA Level I
Baking: https://www.instagram.com/deefoodchronicles/
Podcast: https://anchor.fm/deeksha-sinha
Other Interests: Traveling, Bollywood dancing, Running, Voice acting

Citizenship   Citizen of India