Akshit Kumar

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EDUCATION	**Columbia University, Graduate School of Business**, New York, NY 2020-present Ph.D. candidate in Decision, Risk and Operations division. GPA: 10.02/10.00 Advisors: Prof. Omar Besbes and Prof. Yash Kanoria **University of Michigan**, Ann Arbor, MI 2018-2020 Master of Science in Electrical and Computer Engineering. GPA: 4.27/4.00. Advisor: Prof. Vijay Subramanian Masters' Thesis: *Finite Time Guarantees for Empirical Dynamic Programs* **Indian Institute of Technology Madras**, Chennai, India 2014-2018 Bachelor of Technology in Electrical Engineering, minor in Robotics. GPA: 8.81/10.00 Advisor: Prof. Rahul Vaze, Tata Institute of Fundamental Research Bachelors' Thesis: *Speed Scaling under QoS constraints with finite buffer*

RESEARCH INTERESTS — Dynamic Resource Allocation, Online Algorithms, Reinforcement Learning

WORKING PAPERS — **Dynamic Resource Allocation: Algorithmic Design Principles and Spectrum of Achievable Performances** with Omar Besbes and Yash Kanoria. *Under Review at Operations Research*
- ☛ An earlier version appeared with the title "The Multi-secretary problem with many types"
- ★ Finalist, 2023 INFORMS George Nicholson student paper competition
- ★ Finalist, 2023 Jeff McGill RMP Best Student Paper Prize

PUBLICATIONS — **Feature Based Dynamic Matching** with Yilun Chen, Yash Kanoria and Wenxin Zhang. *EC'23: Proceedings of the 2023 ACM Conference on Economics and Computation.*

The Multi-secretary problem with many types with Omar Besbes and Yash Kanoria. *EC'22: Proceedings of the 2022 ACM Conference on Economics and Computation.*

Low-cost aerial imaging for small holder farmers with Ranveer Chandra et al. *COMPASS '19: Proceedings of the 2nd ACM SIGCAS Conference on Computing and Sustainable Societies*
- ★ Best Paper Award at COMPASS'19

Speed scaling under QoS constraints with finite buffer with Parikshit Hegde and Rahul Vaze. *WiOpt'18: 16th International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks.*

Breaking the Unit Throughput Barrier in Distributed System with Parikshit Hegde and Rahul Vaze. *NCC'23: Twenty-Ninth National Conference on Communications*

PATENTS — US20180213186 A1 *Low-cost, Long-term Aerial Imagery*
US20180213187 A1 *Aerial imaging of a region using above ground aerial camera platform*

INDUSTRY INTERNSHIPS — **Amazon**, Bellevue, Washington   June 2023 - September 2023
Worked on designing algorithms and decision support tools for multi-objective optimization for order fulfillment problems.

Nokia Bell Labs, Paris, France   May 2018 - August 2018
Worked on developing and analysing decoding schemes for distributed wireless systems with applications in 5G and Internet of Things.

Microsoft Research, Bangalore, India   June 2016 - August 2016
Worked on designing low cost solutions to enable precision agriculture for small farm holders.
Industry Category Winner at Microsoft OneWeek Hackathon

TEACHING EXPERIENCE	**Columbia University**, **Teaching Assistant**	
	Business Analytics (MBA Core)	Fall 2023
	Operations Management (EMBA Core)	Spring 2023
	Business Analytics (EMBA core)	Spring 2022
	Foundations of Optimization (PhD core)	Fall 2021

AWARDS

Finalist, INFORMS George Nicholson student paper competition, 2023
Finalist, Jeff McGill RMP Best Student Paper Prize, 2023
Deming Doctoral Fellowship, Columbia Business School, 2023
Narula Doctoral Fellowship, Columbia Business School, 2023
Best Paper Award, COMPASS'19, 2019
Industry Category Winner at Microsoft OneWeek Hackathon, 2016
Recipient of Kishore Vaigyanik Protsahan Yojana (KVPY) Fellowship by Government of India, 2014
Recipient of National Talent Search Examination (NTSE) scholarship by Government of India, 2011

SKILLS

Programming: Python, C/C++, JavaScript, PHP, HTML, CSS
Tools: Git, LaTeX, ROS

SELECTED TALKS

Dynamic Resource Allocation: Algorithmic Design Principles and Spectrum of Achievable Performances

INFORMS Annual Meeting, Phoenix	October 2023
Fulfillment Optimization Research Series, Amazon	August 2023
TIFR, Mumbai	May 2023

The multi-secretary problem with many types

TIFR, Mumbai	May 2023
MSOM Annual Conference, Munich	June 2022
RMP Annual Conference, Online	June 2022
EC'22, Boulder	July 2022
INFORMS Annual Meeting, Indianapolis	October 2022

Feature-Based Dynamic Matching

INFORMS Annual Meeting, Indianapolis	October 2022
RMP Annual Conference, London, England	June 2023