
ACADEMIC APPOINTMENTS	<p>Cornell University and Cornell Tech, New York, NY</p> <ul style="list-style-type: none"> - Assistant Professor Jan 2022-current School of Operations Research and Information Engineering Graduate Field Member in Operations Research and Applied Mathematics - Visiting Assistant Professor 2020-2021
EDUCATION	<p>Columbia University, New York, NY</p> <ul style="list-style-type: none"> - Ph.D. in Operations Research. 2016-2020 Thesis: <i>Tractable Policies in Dynamic Robust Optimization</i> Advisor: Professor Vineet Goyal - Master of Science in Operations Research 2015-2016 <p>Ecole Polytechnique, Paris, France 2012-2015 Bachelor of Science and Master of Science in Applied Mathematics</p>
SPONSORED RESEARCH	<p>“Collaborative Research: Coordinating Offline Resource Allocation Decisions and Real-Time Operational Policies in Online Retail with Performance Guarantees”, National Science Foundation, CMMI-2226900. Principal Investigator. Portion of Cornell University is \$305,824, 2023-2026</p> <p>“Urban Friendly e-Retail,” Urban Tech Hub at Cornell Tech. Principal investigator (co-PI is Huseyin Topaloglu). \$99,880, 2022-2023</p>
AWARDS	<ul style="list-style-type: none"> - ORIE Graduate Outstanding Instructor Award 2023. (voted by Cornell ORIE graduate students) - Cornell Tech Students Choice Award 2023. (voted by Cornell Tech graduating class M.Eng, MS, MBAs and LLMS students) - Second prize in the INFORMS George Nicholson student paper competition, 2020 - Amazon Inventor Award, 2017 - The Graduate Fellowship for Masters in Operations Research, Columbia University, 2016 - Finalist in INFORMS Undergraduate OR student paper competition, 2015 - Ecole Polytechnique Research Prize in Applied Mathematics, 2015 - French Government’s Major-Excellence Scholarship, 2012 - Honorable Mention in the 51st International Mathematical Olympiad, Astana, Kazakhstan, 2010
JOURNAL PUBLICATIONS	<p><i>LP-based Approximations for Disjoint Bilinear and Two-Stage Adjustable Robust Optimization</i> (joint with A. Foussoul and V. Goyal). Math Programming, pages 1-43, 2023</p> <p><i>Fluid Approximations for Revenue Management under High-Variance Demand: Good and Bad Formulations</i> (joint with Y. Bai, B. Jin, P. Rusmevichientong, H. Topaloglu, D. Williamson) Management Science, 69 (7), pages 4016-4026, 2023 Accepted to Fast Track in Management Science</p> <p><i>Joint Assortment Optimization and Customization under Mixture of Multinomial Logit Model: On the Value of Personalized Assortments</i> (joint with H. Topaloglu) Operations Research, 71 (4), pages 1197-1215, 2023 Selected for presentation in the MSOM Supply Chain Management SIG, 2022</p> <p><i>On the Optimality of Affine Policies for Budgeted Uncertainty Sets</i> (joint with V. Goyal) Math of Operations Research, 46 (2), pages 674-711, 2021 2nd place in the INFORMS George Nicholson student paper competition, 2020</p>

A Tractable Approach for Designing Piecewise Affine Policies in Dynamic Robust Optimization (joint with A. Ben-Tal and V. Goyal).

Math Programming, 182 (1), pages 57-102, 2020

Piecewise Static Policies for Two-stage Adjustable Robust Linear Optimization (joint with V. Goyal)

Math Programming 169 (2), pages 649-665, 2018

Finalist in INFORMS Undergraduate OR student paper competition, 2015

REFEREED
CONFERENCE
PUBLICATIONS

Adaptivity Gaps in Two-sided Assortment Optimization (joint with A. Torrico and U. Hennebelle). To appear in Proceedings of the International Conference on Integer Programming and Combinatorial Optimization (**IPCO**), 2024

Assortment Optimization with Visibility Constraints (joint with A. Lodi and T. Barre).

To appear in Proceedings of the International Conference on Integer Programming and Combinatorial Optimization (**IPCO**), 2024

LP-based Approximations for Disjoint Bilinear and Two-Stage Adjustable Robust Optimization (joint with A. Foussoul and V. Goyal). In Proceedings of the International Conference on Integer Programming and Combinatorial Optimization (**IPCO**), 223-236, 2022

Matchings Riders to Drivers: A Two-stage Robust Optimization Approach (joint with V. Goyal, O. Hanguir and C. Stein). In Proceedings of the International Conference on Approximation Algorithms for Combinatorial Optimization Problems (**APPROX**), 2021

On the Power of Static Assignment Policies for Robust Facility Location Problems (joint with V. Goyal and D. Shmoys). In Proceedings of the International Conference on Integer Programming and Combinatorial Optimization (**IPCO**), 252-267, 2021

Beyond Worst-case: A Probabilistic Analysis of Affine Policies in Dynamic Optimization (joint with V. Goyal). Advances of Neural Information Processing Systems (**NeurIPS**) (**spotlight talk**), 2017

PAPERS UNDER
REVIEW

Placement Optimization of Substitutable Products (joint with Rajan Udhwani)

Maximum Load Assortment Optimization: Approximation Algorithms and Adaptivity Gaps (joint with Marouane Ibn Brahim and Danny Segev). Major revision in **Operations Research**

Assortment and Price Optimization under an Endogenous Context-Dependent Multinomial Logit Model (joint with Yicheng Bai, Paat Rusmevichientong and Huseyin Topaloglu). Major revision in **Management Science**

Coordinated Inventory Stocking and Assortment Optimization (joint with Y. Bai, P. Rusmevichientong and H. Topaloglu). Major revision in **Operations Research**. Selected for presentation in the MSOM Supply Chain Management SIG, 2023

Matchings Riders to Drivers: A Two-stage Robust Optimization Approach (joint with V. Goyal, O. Hanguir and C. Stein). Major revision in **Operations Research**

Joint Assortment and Inventory Planning for Heavy Tailed Demand (joint with O. Mouchtaki, G. Gallego, V. Goyal, S. Humair, S. Kim, A. Sadighian, J. Wu). Major revision in **Management Science**

OTHER PAPERS

Leveraging AI for Natural Disaster Management: Takeaways From The Moroccan Earthquake (Morocco Solidarity Hackathon) **NeurIPS 6th Workshop** on Artificial Intelligence for Humanitarian Assistance and Disaster Response.

Can Testing Ease Social Distancing Measures? Future Evolution of COVID-19 in NYC (joint with Mika Sumida, Paat Rusmevichientong, Huseyin Topaloglu and Serhan Ziya) (*White paper*)

Future Evolution of COVID-19 Pandemic in North Carolina: Can We Flatten the Curve? (joint with Mika Sumida, Paat Rusmevichientong, Huseyin Topaloglu and Serhan Ziya) (*White paper*)

PATENTS	<i>Real-time Iterative Assortment Allocation Estimation</i> (joint with D.Bhatia, S.Humair, V.Jain, G.Li, J.Marasanapalle, A.Sadighian, and J.Wu) Amazon Research. Patent pending.	
INDUSTRY EXPERIENCE	Uber , Data Scientist Intern, San Francisco, CA	Summer 2018
	Developed a machine learning and an optimization framework for Uber Eats targeted promotions.	
	Amazon , Research Scientist Intern, Seattle, WA	Summer 2016, Summer 2017
	Developed a standardized decision-making process for Amazon fashion assortment planning (patent pending).	
	EDF R&D , Research Intern, Paris, France	Fall 2014
	Developed a large scale optimization framework for scheduling employees rounds at the French flagship electric utility company EDF.	
	Empresas Lipigas , Supply Chain Analyst, Santiago, Chili	Summer 2014
	Implemented optimization algorithms for scheduling the production of gas cylinders under demand uncertainty.	
TEACHING EXPERIENCE	Cornell Tech , Instructor	
	<i>ORIE 7391: Optimization for Revenue Management</i> , PhD (20 students)	Spring 2024
	<i>ORIE 5132: Pricing Analytics and Revenue Management</i> , graduate (40 students)	Spring 2023
	<i>ORIE 5530: Modeling under Uncertainty</i> , graduate (60 students)	Fall 2023,2022,2021
	<i>ORIE 6360: Optimization under Uncertainty: Robust and Online Models</i> , (30 PhD)	Spring 2022
	<i>ORIE 5250: Business Applications of Optimization</i> , graduate (20 students)	Summer 2021
	<i>ORIE 5132: Service Systems and Online Markets</i> , graduate (30 students)	Spring 2021
	Columbia University , Teaching Assistant	
	<i>IEOR 6613: Optimization</i> , PhD (30 students).	Fall 2016, 2018
	<i>IEOR 4601: Dynamic Pricing & Revenue Management</i> , graduate(50 students)	Spring 2017,2020
	<i>IEOR 3404: Simulation</i> , undergraduate (90 students),	Spring 2018
	<i>IEOR 3609: Advanced Optimization</i> , undergraduate (90 students),	Spring 2019
	Columbia University Science Honors Program , Co-instructor	Spring 2019
	<i>Introduction to Algorithms</i> , (40 students).	
	Mathematical Olympiad , Instructor	2018-2019
	<i>Head coach and Instructor of the Moroccan International Mathematical Olympiad team, IMO 2019, Bath UK.</i>	
PROFESSIONAL SERVICE	<ul style="list-style-type: none"> -Organizing Committee for BIRS Workshop on Combinatorial Optimization for Online Platforms, Banff, Canada, April 2024. -Program Committee EC conference 2024 -Senior Coordinator at the International Mathematical Olympiad (IMO), Chiba Japan, 2023 -INFORMS Optimization Society Student Paper Prize committee 2023 -Organizer of NYC Operations day, April 2022 (Cornell Tech) and May 2023 (Columbia) -Organizing Committee Math&Maroc Competition, Benguerir Morocco, May 2023 -Cornell ORIE PhD Admissions committee member 2023. -Cornell ORIE Director Search committee member 2023. -Cornell Tech: Research committee (2022-2023), PhD life committee (2021,2023), Academic integrity committee (2022) -Session organizer for INFORMS Annual Meeting 2022, 2023, ICCOPT 2022 -Reviewer for <i>Operations Research, Management Science, Mathematical Programming, Mathematics of Operations Research, INFORMS journal on Computing, INFORMS journal on Optimization, Naval Research Logistics, Optimization Letters, IPCO, ISCO and MSOM.</i> -Co-organizer of IEOR-DRO seminars at Columbia university, 2016-2020. 	
SKILLS	Arabic/French: bilingual Spanish: Fluent Programming: Python, R, Matlab, CVX, GUROBI	

SELECTED TALKS	Two-sided Assortment Optimization (elevator talk)	
	• Aussois Workshop on Combinatorial Optimization, Aussois, France	January 2024
	Matching Drivers to Riders: A Two-stage Robust Approach	
	• IRIS workshop, UM6P Benguerir, Morocco	December 2023
	Coordinated Inventory Stocking and Assortment Personalization	
	• Mathematics and Decisions conference, UM6P Benguerir, Morocco	December 2023
	• INFORMS Annual Meeting, Phoenix, CO	October 2023
	• POMS conference, Orlando, FL	May 2023
	• Market Innovation Workshop (virtual)	May 2023
	• MSOM SIG, Montreal, Canada	June 2023
	Fluid Approximations for Revenue Management under High-Variance Demand	
	• MSOM conference, Montreal, Canada	June 2023
	From Ideas to Algorithms	
	• Faculty of Sciences BenMsik, Casablanca, Morocco	April 2023
	• Regis High School, New York, NY	June 2023
	Joint Assortment Optimization and Customization: On the Value of Personalized Assortments	
	• INFORMS Annual Meeting, Indianapolis, IN	Oct 2022
	• MSOM SIG, Munich, Germany	June 2022
	• RMP (virtual)	June 2022
	• INFORMS Annual Meeting, Anaheim, CA	Oct 2021
	• Cornell Applied Math seminars, Ithaca, NY	Sep 2021
	• MSOM, (virtual)	June 2021
	• RMP, (virtual)	June 2021
	On the Power of Static Assignment Policies for Robust Facility Location Problems	
	• Robust Optimization Webinar, (virtual)	June 2023
	• SIOPT, Seattle, WA	May 2023
	• ICCOPT, Bethlehem, PA	July 2022
	• INFORMS Optimization society Conference, Greenville, NC	March 2022
	• IPCO, (virtual)	May 2021
	• INFORMS Annual Meeting, Seattle, WA	Oct 2019
	From Affine to Threshold Policies: a New Framework in Dynamic Robust Optimization	
	• Cornell ORIE, Ithaca, NY	Dec 2019
	• Cornell Tech, New York, NY	Dec 2019
	• Chicago Booth, IL	Jan 2020
	• Imperial College Business School, London, UK	Feb 2020
	• University of Waterloo, Combinatorics & Optimization, Canada	Feb 2020
	• Lyft Labs, New York, NY	Mar 2020
	On the Power of Affine Policies for Capacity Planning under Demand Uncertainty	
	• MSOM, Singapore	Jul 2019
	On the Optimality of Affine Policies for Budget of Uncertainty Sets	
	• INFORMS Annual Meeting, (virtual)	Nov 2020
	• ICCOPT, Berlin, Germany	Aug 2019

• ICSP, Trondheim, Norway	Jul 2019
• BIRS workshop, Banff, Canada	Jan 2019
• INFORMS Annual Meeting, Phoenix, AZ	Nov 2018
• INFORMS Optimization society Conference, Denver, CO	Mar 2018
• INFORMS Annual Meeting, Houston, TX	Oct 2017
On the Power of Affine Policies in Two-Stage Adjustable Robust Optimization	
• INFORMS Annual Meeting, Seattle, WA	Oct 2019
• Imperial College, London, UK	May 2017
Beyond Worst-case: A Probabilistic Analysis of Affine Policies in Dynamic Optimization	
• Uber Tech Talks, San Francisco, CA	Aug 2018
• ISMP, Bordeaux, France	Jul 2018
• TADC, London Business School, London, UK	May 2018
• INFORMS Optimization society Conference, Denver, CO	Mar 2018
• NIPS, Long Beach, CA	Dec 2017
• INFORMS Annual Meeting, Houston, TX	Oct 2017
• Student seminar Columbia University, NY	Oct 2017
Dynamic Resource Provisioning in Data Centers under Demand Uncertainty	
• MSOM, Chapel Hill, NC	Jun 2017
Piecewise Affine policies for Dynamic Robust Optimization	
• Young Researchers Workshop at Cornell ORIE, Ithaca, NY	Oct 2017
• Computational Management Science conference, Bergamo, Italy	May 2017
• IBM Thomas J. Watson Research center, NY	Dec 2016
• INFORMS Annual Meeting, Nashville, TN	Nov 2016
• EURO of Operations Research, Poznan, Poland	Jul 2016
• Amazon seminars, Seattle, WA	Jun 2016
• Student seminar Columbia University, NY	Apr 2016
Affine policies for Multi-stage Dynamic Robust Optimization	
• INFORMS Annual Meeting, Nashville, TN	Nov 2016
• Student seminar Columbia University, NY	Nov 2016
Piecewise Static policies for Two-stage Adjustable Robust Optimization	
• Optimization days, Montreal, Canada	May 2016
• INFORMS Annual Meeting, Philadelphia, PA	Nov 2015
Tractable Policies in Dynamic Robust Optimization	
• Africa Business School- OCP Headquarters, Casablanca, Morocco	Jun 2017