

EMPLOYMENT	<b>Cornell Tech, Cornell University</b> , New York, NY	
	- Assistant Professor School of Operations Research and Information Engineering Graduate Field Member in Operations Research and Applied Mathematics	Jan 2022-present
	- Visiting Assistant Professor	2020-2021
	<b>Amazon</b> , Selling Partner Services	
	- Amazon Scholar	Jan 2025-present
EDUCATION	<b>Columbia University</b> , New York, NY	
	- Ph.D. in Operations Research. Thesis: <i>Tractable Policies in Dynamic Robust Optimization</i> Advisor: Professor Vineet Goyal	2016-2020
	- Master of Science in Operations Research	2015-2016
	<b>Ecole Polytechnique</b> , Paris, France	2012-2015
	Bachelor of Science and Master of Science in Applied Mathematics	
SPONSORED RESEARCH	“Agentic Commerce: How AI Shopping Agents Change Choice, Assortment, and Ranking”, Cornell Tech Catalyst Fund. Role: Principal Investigator (co-PI Omid Refeian). \$80,000, 2026-2027	
	“Pricing Commodities Based on Real-Time Flow of Supply and Demand”, Mohammed VI Polytechnic University (Morocco). Role: Principal Investigator. \$160,000, 2024-2025	
	“Collaborative Research: Coordinating Offline Resource Allocation Decisions and Real-Time Operational Policies in Online Retail with Performance Guarantees”, National Science Foundation, CMMI-2226900. Role: Principal Investigator (co-PI Huseyin Topaloglu). \$450,365, portion of Cornell University is \$305,824, 2023-2026	
	“Urban Friendly e-Retail”, Urban Tech Hub at Cornell Tech. Role: Principal Investigator (co-PI Huseyin Topaloglu). \$99,880, 2022-2023	
AWARDS	- Cornell Tech Faculty Dedication Award 2026 ( <i>voted by Cornell Tech graduating class M.Eng, MS, MBAs and LLMS students</i> )	
	- Mathematical Programming 2023 Meritorious Service Award	
	- ORIE Graduate Outstanding Instructor Award 2023 ( <i>voted by Cornell ORIE graduate students</i> )	
	- Cornell Tech Students Choice Award 2023 ( <i>voted by Cornell Tech graduating class M.Eng, MS, MBAs and LLMS students</i> )	
	- 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	[J12] <i>When Location Shapes Choice: Placement Optimization of Substitutable Products</i> (joint with R. Udwan)	
	<b>Management Science</b> , forthcoming	

[J11] *Matchings Riders to Drivers: A Two-stage Robust Optimization Approach* (joint with V. Goyal, O. Hanguir and C. Stein)

**Operations Research**, forthcoming

[J10] *Joint Assortment and Inventory Planning under the Markov chain Choice Model* (joint with O. Mouchtaki, G. Gallego, V. Goyal, S. Humair, S. Kim, A. Sadighian, J. Wu)

**Management Science**, forthcoming

[J9] *Assortment Optimization with Visibility Constraints* (joint with T. Barre, M. Ibn Brahim, A. Lodi, and D. Segev)

**Math Programming**, 216, pages 177–220, 2026

Selected for presentation in the MSOM Supply Chain Management SIG, 2024

[J8] *Maximum Load Assortment Optimization: Approximation Algorithms and Adaptivity Gaps* (joint with M. Ibn Brahim and D. Segev)

**Operations Research**, 74(1), pages 408-429, 2025

★ **Finalist in the INFORMS George Nicholson student paper competition, 2025. Entrant: Marouane**

[J7] *Coordinated Inventory Stocking and Assortment Optimization* (joint with Y. Bai, P. Rusmevichientong and H. Topaloglu)

**Operations Research**, 73(6), pages 2953-2971, 2025

Selected for presentation in the MSOM Supply Chain Management SIG, 2023

[J6] *LP-based Approximations for Disjoint Bilinear and Two-Stage Adjustable Robust Optimization* (joint with A. Foussoul and V. Goyal).

**Math Programming**, 206, pages 239–281, 2024

[J5] *Fluid Approximations for Revenue Management under High-Variance Demand: Good and Bad Formulations* (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

[J4] *Joint Assortment Optimization and Customization under Mixture of Multinomial Logit Model: On the Value of Personalized Assortments* (joint with H. Topaloglu)

**Operations Research**, 71(4), pages 1197-1215, 2023

Selected for presentation in the MSOM Supply Chain Management SIG, 2022

[J3] *On the Optimality of Affine Policies for Budgeted Uncertainty Sets* (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**

[J2] *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

[J1] *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

[C7] *Price and Assortment Optimization under the Multinomial Logit Model with Opaque Products* (joint with A. Elmachtoub, H. Sheth and J. Shi). In Proceedings of the Conference on Web and Internet Economics, (**WINE**), 2025

[C6] *Adaptivity Gaps in Two-sided Assortment Optimization* (joint with A. Torricco and U. Hennebel). In Proceedings of the International Conference on Integer Programming and Combinatorial Optimization (**IPCO**), 2024

[C5] *Assortment Optimization with Visibility Constraints* (joint with T. Barre and A. Lodi). In Proceedings of the International Conference on Integer Programming and Combinatorial Optimization (**IPCO**), 2024

[C4] *LP-based Approximations for Disjoint Bilinear and Two-Stage Adjustable Robust Optimization* (joint with A. Fousoul and V. Goyal). In Proceedings of the International Conference on Integer Programming and Combinatorial Optimization (**IPCO**), 2022

[C3] *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

[C2] *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**), 2021

[C1] *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

[J19] *A Markovian Approach for Cross-Category Complementarity in Choice Modeling* (joint with S. Sun and R. Udvani)

[J18] *Optimal Selection with Balanced Market Share: Static and Dynamic Assortment Optimization* (joint with Q. Feng and H. Topaloglu)

[J17] *Adaptive Two-sided Assortment Optimization: Revenue Maximization* (joint with M. Ahmadnejadsaein)

Major revision in **Operations Research**

[J16] *Price and Assortment Optimization under the Multinomial Logit Model with Opaque Products* (joint with A. Elmachtoub, H. Sheth and J. Shi)

Major revision in **Management Science**

[J15] *Assortment and Price Optimization under an Endogenous Context-Dependent Multinomial Logit Model* (joint with Y. Bai, P. Rusmevichientong and H. Topaloglu)

Major revision in **Management Science**

[J14] *Assortment Optimization under the Multinomial Logit Model with Covering Constraints* (joint with Q. Feng and H. Topaloglu).

Minor revision in **M&SOM**

[J13] *Two-sided Assortment Optimization: Approximation Algorithms and Adaptivity Gaps in* (joint with A. Torrico and U. Hennebelle)

Minor revision in **Operations Research**

Accepted for oral presentation at **MATCH-UP 2024**

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*)

*Real-time Iterative Assortment Allocation Estimation* (joint with D.Bhatia, S.Humair, V.Jain, G.Li, J.Marasanapalle, A.Sadighian, and J.Wu) Amazon Research. Patent pending

INDUSTRY EXPERIENCE	<p><b>Uber</b>, Data Scientist Intern, San Francisco, CA <span style="float: right;">Summer 2018</span> Developed a machine learning and an optimization framework for Uber Eats targeted promotions.</p> <p><b>Amazon</b>, Research Scientist Intern, Seattle, WA <span style="float: right;">Summer 2016, Summer 2017</span> Developed a standardized decision-making process for Amazon fashion assortment planning (patent pending).</p> <p><b>EDF R&amp;D</b>, Research Intern, Paris, France <span style="float: right;">Fall 2014</span> Developed a large scale optimization framework for scheduling employees rounds at the French flagship electric utility company EDF.</p> <p><b>Empresas Lipigas</b>, Supply Chain Analyst, Santiago, Chili <span style="float: right;">Summer 2014</span> Implemented optimization algorithms for scheduling the production of gas cylinders under demand uncertainty.</p>
TEACHING EXPERIENCE	<p><b>Cornell Tech</b>, Instructor</p> <p><i>ORIE 7391: Optimization for Revenue Management</i>, PhD <span style="float: right;">Spring 2024</span>  <i>ORIE 5132: Pricing Analytics and Revenue Management</i>, graduate <span style="float: right;">Spring 2023,2025,2026</span>  <i>ORIE 5530: Modeling under Uncertainty</i>, graduate <span style="float: right;">Fall 2024,2023,2022,2021</span>  <i>ORIE 6360: Optimization under Uncertainty: Robust and Online Models</i>, PhD <span style="float: right;">Spring 2022</span>  <i>ORIE 5250: Business Applications of Optimization</i>, graduate <span style="float: right;">Summer 2021</span>  <i>ORIE 5132: Service Systems and Online Markets</i>, graduate <span style="float: right;">Spring 2021</span></p> <p><b>Columbia University</b>, Teaching Assistant</p> <p><i>IEOR 6613: Optimization</i>, PhD <span style="float: right;">Fall 2016, 2018</span>  <i>IEOR 4601: Dynamic Pricing &amp; Revenue Management</i>, graduate <span style="float: right;">Spring 2017,2020</span>  <i>IEOR 3404: Simulation</i>, undergraduate, <span style="float: right;">Spring 2018</span>  <i>IEOR 3609: Advanced Optimization</i>, undergraduate <span style="float: right;">Spring 2019</span></p> <p><b>Columbia University Science Honors Program</b>, Co-instructor <span style="float: right;">Spring 2019</span> <i>Introduction to Algorithms</i>, (40 students).</p> <p><b>Mathematical Olympiad</b>, Instructor</p> <p><i>Head coach and Instructor of the Moroccan International Mathematical Olympiad team, IMO 2019, Bath UK.</i></p>
PROFESSIONAL EXTERNAL SERVICE	<ul style="list-style-type: none"> <li>-Organizing Committee of NYC Operations day April 2026 (Baruch), March 2025 (NYU), May 2023 (Columbia) and April 2022 (Cornell Tech)</li> <li>-Problem Captain Pan-African Mathematics Olympiads (PAMO), Johannesburg, South Africa 2024</li> <li>-Organizing Committee for BIRS Workshop on Combinatorial Optimization for Online Platforms, Banff, Canada, April 2024</li> <li>-Program Committee EC conference 2024</li> <li>-Senior Coordinator at the International Mathematical Olympiad (IMO), Chiba Japan, 2023</li> <li>-INFORMS Optimization Society Student Paper Prize committee 2023</li> <li>-Organizing Committee Math&amp;Maroc Competition, Benguerir Morocco, May 2023</li> <li>-Session organizer for INFORMS Annual Meeting 2022, 2023, 2024, ICCOPT 2022, ISMP 2024</li> <li>-Reviewer for <i>Operations Research</i>, <i>Management Science</i>, <i>Mathematical Programming</i>, <i>Mathematics of Operations Research</i>, <i>INFORMS journal on Computing</i>, <i>INFORMS journal on Optimization</i>, <i>MSOM journal</i>, <i>Naval Research Logistics</i>, <i>Optimization Letters</i>, <i>IPCO</i>, <i>ISCO</i>, <i>EC</i> and <i>MSOM-SIG</i>.</li> <li>-Co-organizer of IEOR-DRO seminars at Columbia university, 2016-2020.</li> </ul>
CORNELL SERVICE	<ul style="list-style-type: none"> <li>-Cornell Tech PhD life committee, committee chair, 2025-2026</li> <li>-Cornell ORIE Search hiring committee member, 2024-2025</li> <li>-Cornell ORIE PhD Admissions committee member, 2023</li> <li>-Cornell ORIE Director search committee member, 2023</li> <li>-Cornell Tech Search committee member for communications and marketing, 2024</li> <li>-Cornell Tech Research Collisions and Events committee member, 2022,2023</li> <li>-Cornell Tech PhD life committee, ORIE representative, 2021,2023</li> <li>-Cornell Tech Academic integrity committee member, 2022</li> </ul>

## SKILLS

**Arabic/French:** bilingual      **Spanish:** Fluent  
**Programming:** Python, R, Matlab, CVX, GUROBI

## ADVISING

**Current Phd advisees:**

Marouan Ibn Brahim  
 Qing Feng (co-advisor: Huseyin Topaloglu)  
 Mohammadreza Ahmadnejadsaein  
 Ulysse Hennebelle  
 Mikhail Fadin (co-advisor: Huseyin Topaloglu)

**PhD Thesis committee member**

Yuan Lorraine (Cornell Johnson)  
 Weiyuan Li (2026, Cornell ORIE)  
 Yuheng Wang (2026, Cornell ORIE)  
 Ayoub Foussoul (2025, Columbia IEOR)  
 Wenchang Zhu (2025, Cornell ORIE)  
 Harsh Sheth (2023, Columbia IEOR)

**MEng students:**

James Boudreau (Cornell Tech Meng ORIE 2026)  
 Carjilin Smeets (Cornell Tech Meng ORIE 2025)  
 Federico Tilberga (Cornell Tech Meng ORIE 2023) → PhD LBS  
 Yang Song (Cornell Tech Meng CS, 2022)

**Undergraduate interns:**

Lorenzo Santoro (University of Bologna, February-Present 2025)  
 Mohamed Lagmah (Ecole Polytechnique, March-Present 2025) → PhD Cornell ORIE  
 Matthieu Palançon (Ecole Polytechnique, March-July 2024)  
 Auguste De Lambilly (Ecole Polytechnique, March-July 2024)  
 Theo Barre (Ecole Polytechnique March-July 2023) → MS UC Berkeley  
 Ulysse Hennebelle (Ecole Polytechnique March-July 2023) → PhD Cornell ORIE  
 Omar Bennouna (Ecole Polytechnique, March-July 2022) → PhD MIT EECS  
 Sean Michael Xiao Yang (Cornell CS, June-August 2022)  
 Marouane Ibn Brahim (Ecole Polytechnique March-July 2022) → PhD Cornell ORIE

## SELECTED TALKS

## Maximum Load Assortment Optimization

- INFORMS Optimization Society Conference, Houston, TX March 2024
- ISMP conference, Montreal, Canada July 2024

## Two-sided Assortment Optimization

- OM in the Wild, Pocono, PA May 2026
- School of Data Science, CUHK Shenzhen, China April 2026
- Moroccan Center of Game Theory seminars, UM6P, Rabat, Morocco January 2026
- Mostly OM, Tsinghua University, Beijing, China June 2025
- Workshop: From Matching to Market. Tale of Mathematics, Economics and Computer Science. Institut d'Etudes Scientifiques, Cargèse, France May 2025
- Carey Business School seminar, John Hopkins University, MD September 2024
- IEOR seminar, UC Berkeley, CA September 2024
- MATCH-UP conference, University of Oxford, UK September 2024
- SWIMS workshop, Crete, Greece July 2024
- IPCO conference, Wroclaw, Poland July 2024
- MSOM conference, Minneapolis, MN June 2024
- Aussois Workshop on Combinatorial Optimization, Aussois, France January 2024, 2026

Pricing Commodities Based on Real-time Flow of Supply and Demand	
• SCALab seminars, UM6P, Rabat, Morocco	December 2025
Placement Optimization of Substitutable Products	
• SWIMS workshop, Halkidiki, Greece	July 2025
• INFORMS Annual meeting, Seattle, WA	October 2024
• RMP conference, Los Angeles, CA	July 2024
Matchings: From Graph Theory to Real-World Applications	
• MMC competition, UM6P Benguerir, Morocco	July 2024
Matching Drivers to Riders: A Two-stage Robust Approach	
• IRIS workshop, UM6P Benguerir, Morocco	December 2023
Coordinated Inventory Stocking and Assortment Personalization	
• Amazon MOP seminar, Bellevue, WA	April 2024
• 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	
• IRIS workshop, UM6P Benguerir, Morocco	June 2025
• 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