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| EMPLOYMENT           | <b>Cornell Tech, Cornell University</b> , New York, NY   |                  |
|                      | - Assistant Professor<br>School of Operations Research and Information Engineering<br>Graduate Field Member in Operations Research and Applied Mathematics   | Jan 2022-present |
|                      | - Visiting Assistant Professor   | 2020-2021        |
|                      | <b>Amazon</b> , Supply Chain Optimization Technologies (Virtual)   |                  |
|                      | - Amazon Visiting Academic   | Jan 2025-present |
| EDUCATION            | <b>Columbia University</b> , New York, NY  |                  |
|                      | - Ph.D. in Operations Research.<br>Thesis: <i>Tractable Policies in Dynamic Robust Optimization</i><br>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   | “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               | - Mathematical Programming 2023 Meritorious Service Award<br>- ORIE Graduate Outstanding Instructor Award 2023 (voted by Cornell ORIE graduate students)<br>- Cornell Tech Students Choice Award 2023 (voted by Cornell Tech graduating class M.Eng, MS, MBAs and LLMS students)<br>- Second prize in the INFORMS George Nicholson student paper competition, 2020<br>- Amazon Inventor Award, 2017<br>- The Graduate Fellowship for Masters in Operations Research, Columbia University, 2016<br>- Finalist in INFORMS Undergraduate OR student paper competition, 2015<br>- Ecole Polytechnique Research Prize in Applied Mathematics, 2015<br>- French Government’s Major-Excellence Scholarship, 2012<br>- Honorable Mention in the 51st International Mathematical Olympiad, Astana, Kazakhstan, 2010 |                  |
| JOURNAL PUBLICATIONS | <i>Maximum Load Assortment Optimization: Approximation Algorithms and Adaptivity Gaps</i> (joint with M. Ibn Brahim and D. Segev)<br><b>Operations Research</b> , forthcoming  |                  |
|                      | <i>Coordinated Inventory Stocking and Assortment Optimization</i> (joint with Y. Bai, P. Rusmevichientong and H. Topaloglu)<br><b>Operations Research</b> , forthcoming<br>Selected for presentation in the MSOM Supply Chain Management SIG, 2023   |                  |

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

**Math Programming**, pages 1-43, 2023

*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

*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

*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**

*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). In Proceedings of the International Conference on Integer Programming and Combinatorial Optimization (**IPCO**), 2024

*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

*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

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

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

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

Major revision in **Operations Research**

Accepted for oral presentation at MATCH-UP 2024

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

Major revision in **Math Programming**

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

*When Location Shapes Choice: Placement Optimization of Substitutable Products* (joint with R. Udwani)

Major revision in **Management Science**

*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**

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

Minor revision in **Operations Research**

*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)

Minor 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

*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

**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  
*ORIE 7391: Optimization for Revenue Management*, PhD Spring 2024  
*ORIE 5132: Pricing Analytics and Revenue Management*, graduate Spring 2023, 2025  
*ORIE 5530: Modeling under Uncertainty*, graduate Fall 2024, 2023, 2022, 2021  
*ORIE 6360: Optimization under Uncertainty: Robust and Online Models*, PhD Spring 2022  
*ORIE 5250: Business Applications of Optimization*, graduate Summer 2021  
*ORIE 5132: Service Systems and Online Markets*, graduate Spring 2021

**Columbia University**, Teaching Assistant

*IEOR 6613: Optimization*, PhD .

Fall 2016, 2018

*IEOR 4601: Dynamic Pricing & Revenue Management*, graduate

Spring 2017,2020

*IEOR 3404: Simulation*, undergraduate,

Spring 2018

*IEOR 3609: Advanced Optimization*, undergraduate

Spring 2019

**Columbia University Science Honors Program**, Co-instructor

Spring 2019

*Introduction to Algorithms*, (40 students).

**Mathematical Olympiad**, Instructor

*Head coach and Instructor of the Moroccan International Mathematical Olympiad team, IMO 2019, Bath UK.*

PROFESSIONAL

EXTERNAL SERVICE

- Problem Captain Pan-African Mathematics Olympiads (PAMO), Johannesburg, South Africa 2024
- 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
- Organizing Committee of NYC Operations day, April 2022 (Cornell Tech) and May 2023 (Columbia)
- Organizing Committee Math&Maroc Competition, Benguerir Morocco, May 2023
- Session organizer for INFORMS Annual Meeting 2022, 2023, 2024, ICCOPT 2022, ISMP 2024
- Reviewer for *Operations Research*, *Management Science*, *Mathematical Programming*, *Mathematics of Operations Research*, *INFORMS journal on Computing*, *INFORMS journal on Optimization*, *MSOM journal*, *Naval Research Logistics*, *Optimization Letters*, *IPCO*, *ISCO*, *EC* and *MSOM-SIG*.
- Co-organizer of IEOR-DRO seminars at Columbia university, 2016-2020.

CORNELL SERVICE

- Cornell ORIE Search hiring committee member, 2024
- Cornell ORIE PhD Admissions committee member, 2023
- Cornell ORIE Director search committee member, 2023
- Cornell Tech Search committee member for communications and marketing, 2024
- Cornell Tech Research Collisions and Events committee member, 2022,2023
- Cornell Tech PhD life committee, ORIE representative, 2021,2023
- Cornell Tech Academic integrity committee member, 2022

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**

Weiyuan Li (Cornell ORIE)  
Yuheng wang (Cornell ORIE)  
Wenchang Zhu (Cornell ORIE)  
Harsh Sheth (2023, Columbia IEOR)  
Yuan Lorraine (Cornell Johnson)

**Former MEng students:**

Federico Tilberga (Cornell Tech Meng ORIE 2023) → PhD LBS  
Yang Song (Cornell Tech Meng CS, 2022)

**Former Undergraduate interns:**

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

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| SELECTED TALKS | Maximum Load Assortment Optimization   |  |
|                | <ul style="list-style-type: none"> <li>• INFORMS Optimization Society Conference, Houston, TX</li> <li>• ISMP conference, Montreal, Canada</li> </ul>  | <p>March 2024</p> <p>July 2024</p>   |
|                | Two-sided Assortment Optimization  |  |
|                | <ul style="list-style-type: none"> <li>• Carey Business School seminar, John Hopkins University, MD</li> <li>• IEOR seminar, UC Berkeley, CA</li> <li>• MATCH-UP conference, University of Oxford, UK</li> <li>• SWIMS workshop, Crete, Greece</li> <li>• IPCO conference, Wroclaw, Poland</li> <li>• MSOM conference, Minneapolis, MN</li> <li>• Aussois Workshop on Combinatorial Optimization, Aussois, France</li> </ul> | <p>September 2024</p> <p>September 2024</p> <p>September 2024</p> <p>July 2024</p> <p>July 2024</p> <p>June 2024</p> <p>January 2024</p> |
|                | Placement Optimization of Substitutable Products   |  |
|                | <ul style="list-style-type: none"> <li>• INFORMS Annual meeting, Seattle, WA</li> <li>• RMP conference, Los Angeles, CA</li> </ul>   | <p>October 2024</p> <p>July 2024</p>   |
|                | Matchings: From Graph Theory to Real-World Applications  |  |
|                | <ul style="list-style-type: none"> <li>• MMC competition, UM6P Benguerir, Morocco</li> </ul>   | <p>July 2024</p>   |
|                | Matching Drivers to Riders: A Two-stage Robust Approach  |  |
|                | <ul style="list-style-type: none"> <li>• IRIS workshop, UM6P Benguerir, Morocco</li> </ul>   | <p>December 2023</p>   |
|                | Coordinated Inventory Stocking and Assortment Personalization  |  |
|                | <ul style="list-style-type: none"> <li>• Amazon MOP seminar, Bellevue, WA</li> <li>• Mathematics and Decisions conference, UM6P Benguerir, Morocco</li> <li>• INFORMS Annual Meeting, Phoenix, CO</li> <li>• POMS conference, Orlando, FL</li> <li>• Market Innovation Workshop (virtual)</li> <li>• MSOM SIG, Montreal, Canada</li> </ul>   | <p>April 2024</p> <p>December 2023</p> <p>October 2023</p> <p>May 2023</p> <p>May 2023</p> <p>June 2023</p>                              |
|                | Fluid Approximations for Revenue Management under High-Variance Demand   |  |
|                | <ul style="list-style-type: none"> <li>• MSOM conference, Montreal, Canada</li> </ul>  | <p>June 2023</p>   |
|                | From Ideas to Algorithms   |  |
|                | <ul style="list-style-type: none"> <li>• Faculty of Sciences BenMsik, Casablanca, Morocco</li> <li>• Regis High School, New York, NY</li> </ul>  | <p>April 2023</p> <p>June 2023</p>   |
|                | Joint Assortment Optimization and Customization: On the Value of Personalized Assortments  |  |
|                | <ul style="list-style-type: none"> <li>• INFORMS Annual Meeting, Indianapolis, IN</li> <li>• MSOM SIG, Munich, Germany</li> <li>• RMP (virtual)</li> <li>• INFORMS Annual Meeting, Anaheim, CA</li> </ul>  | <p>Oct 2022</p> <p>June 2022</p> <p>June 2022</p> <p>Oct 2021</p>  |

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| • 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   |

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| 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 |