

Marouane Ibn Brahim

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EDUCATION

Cornell Tech, Cornell University

2022–Present

Ph.D. Candidate in Operations Research

New York, NY

- Advisor: Omar El Housni.
- Relevant coursework: Analysis of Algorithms, Mathematical Programming, Statistical Principles, Applied Stochastic Processes, Optimization for Revenue Management.

École polytechnique

2019–2022

B.S./M.S. in Applied Mathematics and Computer Science

Paris, France

- Relevant coursework: Advanced Algorithms, Optimization and Control, Randomized Algorithms, Large-Scale Mathematical Optimization, Statistics.

RESEARCH INTERESTS

Revenue management, choice modeling, assortment optimization, AI-mediated retail markets, pricing, approximation algorithms, and data-driven decision-making.

PUBLICATIONS AND WORKING PAPERS

Journal Articles

- [1] Assortment Optimization with Visibility Constraints
with Théo Barré, Omar El Housni, Andrea Lodi, and Danny Segev.
Mathematical Programming, 216:177–220, 2026.
★ Selected for presentation in the M&SOM Supply Chain Management SIG, 2024.
- [2] Maximum Load Assortment Optimization: Approximation Algorithms and Adaptivity Gaps
with Omar El Housni and Danny Segev.
Operations Research, 74(1):408–429, 2025.
★ Finalist, INFORMS George Nicholson Student Paper Competition, 2025.
- [3] Runtime Analysis for Permutation-Based Evolutionary Algorithms
with Benjamin Doerr and Yassine Ghannane.
Algorithmica, 86:90–129, 2024.
Preliminary version appeared in the Proceedings of the Genetic and Evolutionary Computation Conference (GECCO 2022).

Working Papers

- [4] Centralized vs. Decentralized Design in Multi-Item Pricing with Heterogeneous Customers
with Omar El Housni.
Draft available upon request.

TEACHING EXPERIENCE

Pricing Analytics and Revenue Management, ORIE 5132 Teaching assistant, Graduate (Masters), 56 students	Spring 2026 Cornell Tech
Modeling Under Uncertainty, ORIE 5530 Teaching assistant, Graduate (Masters), 51–61 students	Fall 2022, 2023, 2024 Cornell Tech
Learning with Big Messy Data, ORIE 4741/5741 Teaching assistant, Undergraduate and Graduate (Masters), 96 students	Spring 2023 Cornell University
Mathematics and Physics Instructor High-school teaching, École polytechnique first-year internship	Fall 2019 France

INDUSTRY EXPERIENCE

Moloco Inc. <i>Research Intern</i> <ul style="list-style-type: none">Designed novel budget pacing algorithms.	Summer 2025 Redwood City, CA
Électricité de France <i>Software Engineering and Data Science Intern</i> <ul style="list-style-type: none">Developed a machine learning framework to identify causes of mechanical failures in nuclear sites and designed an internal Python package for causality analysis.	2021 La Défense, France
Carrefour and École polytechnique <i>Machine Learning Project</i> <ul style="list-style-type: none">Implemented large-scale recommendation algorithms on customer data with 58 million rows.	2020–2021 France

HONORS AND AWARDS

Selected Speaker at Kellogg OM Rookiepalooza	2026
Finalist, INFORMS George Nicholson Student Paper Competition	2025
Selected Participant at the ISyE-MS&E-IOE Joint Rising Stars Workshop	2025
Professor Robert E. Bechhofer Fellowship, Cornell University	2023
École polytechnique Research Internship Prize in Computer Science	2022
OCP Foundation Scholarship	2019–2022
Moroccan Ministry of Education Scholarship	2017–2019

PROFESSIONAL SERVICE

Journal Reviewer: Manufacturing & Service Operations Management, Production and Operations Management, INFORMS Journal of Computing.

Program Committee Member: ACM Conference on Economics and Computation (EC), 2026.

Organizer: International Research and Innovation Seminar (IRIS) 2026.

LEADERSHIP ACTIVITIES

X-Maroc , <i>President</i> <i>École polytechnique</i> <ul style="list-style-type: none">Moroccan student association at École polytechnique.	2020–2021
Math&Maroc , <i>Board Member</i>	2019–2024

Morocco

- Nonprofit organization dedicated to promoting excellence in mathematics across Morocco.

XProjets, *Head of Business Development*

2019–2020

Palaiseau, France

- Student-run consulting organization at École polytechnique; responsible for business development and strategy.

TALKS

Maximum Load Assortment Optimization: Approximation Algorithms and Adaptivity Gaps

- Kellogg OM Rookiepaloosa, April 2026, Evanston, IL.
- INFORMS Optimization Society Conference, March 2026, Atlanta, GA.
- INFORMS Annual Meeting, October 2025, Atlanta, GA.
- RMP Conference, July 2024, Los Angeles, CA.
- M&SOM Conference, July 2024, Minneapolis, MN.
- Market Innovation Workshop (MIW), May 2024, virtual.
- Mathematics and Decision Conference, December 2023, Benguéir, Morocco.

Assortment Optimization with Visibility Constraints

- RMP Conference, July 2025, New York, NY.
- INFORMS Annual Meeting, October 2024, Seattle, WA.
- Cornell ORIE PhD Colloquium, October 2024, virtual.
- ISMP, July 2024, Montréal, Canada.
- M&SOM Supply Chain Management SIG Conference, July 2024, Minneapolis, MN.
- New York City Operations Day (Student Day), March 2024, New York, NY.

Centralized vs. Decentralized Design in Multi-Item Pricing with Heterogeneous Customers

- New York City Operations Day (Student Day), March 2026, New York, NY.

Last updated: April 29, 2026