Marouane Ibn Brahim

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EDUCATION

Cornell Tech, Cornell University 2022–Present
Ph.D. candidate in Operations Research *New York, NY*

- Expected graduation: May 2027.
- 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.

PAPERS

[1] Assortment Optimization with Visibility Constraints
with Théo Barré, Omar El Housni, Andrea Lodi, and Danny Segev.
Mathematical Programming, 216(1):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, 2026.

★ 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 '22).

Working Papers

AI-Mediation in Retail Markets: Revenue Effects and Assortment Optimization
with Omar El Housni.

When Is Less Choice Enough? Simple Menus in Multi-Item Pricing
with Omar El Housni.

Work in Progress

To Disclose or Not to Disclose? Seller Incentives in AI-Mediated Markets
with Omar Mouchtaki.

Clearance Assortment Optimization
with Omar El Housni, Yibo Ji, and Matthieu Palanchon.

TEACHING EXPERIENCE

Pricing Analytics and Revenue Management, ORIE 5132 — Spring 2026
Teaching assistant, Graduate (Masters), 56 students — Cornell Tech

Modeling Under Uncertainty, ORIE 5530 — Fall 2022, 2023, 2024, 2026
Teaching assistant, Graduate (Masters), 61/58/51/75 students — Cornell Tech

Learning with Big Messy Data, ORIE 4741/5741 — Spring 2023
Teaching assistant, Undergraduate and Graduate (Masters), 96 students — Cornell University

Engineering Operations, Data Science and Decision-Making, TECHIE 1101 — Summer 2026
Teaching assistant, Cornell Tech High School Summer Program

Mathematics and Physics Instructor — Fall 2019
High-school teaching, École polytechnique first-year internship — France

INDUSTRY EXPERIENCE

Moloco Inc. — Summer 2025
Research Intern — *Redwood City, CA*

- Designed novel budget pacing algorithms.

Électricité de France — 2021
Software Engineering and Data Science Intern — *La Défense, France*

- Developed a machine learning framework to identify causes of mechanical failures in nuclear sites and designed an internal Python package for causality analysis.

Carrefour and École polytechnique — 2020–2021
Machine Learning Project — *France*

- Implemented large-scale recommendation algorithms on customer data with 58 million rows.

HONORS AND AWARDS

Cornell Tech Outstanding TA Award	2026
Selected Speaker at NUS Next-Gen Scholar's Symposium	2026
Selected Speaker at Cornell University's Young Researchers Workshop	2026
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
Morocco's Ministry of Education Scholarship	2017–2019

PROFESSIONAL SERVICE

Journal Reviewer: Operations Research, 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 2020–2021
President *École polytechnique*

- Student Club of Moroccan Students at École polytechnique.

Math&Maroc 2019–2024
Vice Treasurer *Morocco / France*

- A nonprofit dedicated to promoting excellence in mathematics across Morocco.

XProjets 2019–2020
Head of Business Development *Palaiseau, France*

- Junior-Enterprise of Ecole polytechnique. Responsible for defining and executing business strategy.

TALKS

AI-Mediation in Retail Markets: Revenue Effects and Assortment Optimization

- Cornell University's Young Researchers Workshop, October 2026, Ithaca, NY.

Maximum Load Assortment Optimization: Approximation Algorithms and Adaptivity Gaps

- NUS Next-Gen Scholar's Symposium, September 2026, Singapore.
- Kellogg OM Rookiepalooza, 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, Benguérir, 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.

When Is Less Choice Enough? Simple Menus in Multi-Item Pricing

- RMP Conference, July 2026, Ann Arbor, MI.
- New York City Operations Day (Student Day), March 2026, New York, NY.

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