Omar MOUCHTAKI

om2316@gsb.columbia.edu

EDUCATION	**Columbia University, Graduate School of Business**, New York, NY 2019-present

Ph.D. candidate in Decision, Risk and Operations division.
Advisor: Prof. Omar Besbes and Prof. Will Ma
Major coursework includes *Optimization, Stochastic Modeling, Reinforcement Learning, Reliable Statistical Learning, Machine Learning for Algorithm Design, Revenue Management*

École Polytechnique, Palaiseau, France   2016-2019
Bachelor of Science (2018) and Master of Science (2019) in Applied Mathematics, with minor in Computer Science. GPA: 3.90/4.00.
Major coursework includes *Operations Research, Advanced Algorithms Analysis, Game Theory, Numerical Approximation and Optimization*

Lycée Louis-Le-Grand, Paris, France   2014-2016
Preparatory program - A two-year post-secondary curriculum in advanced mathematics, physics and computer science leading to nationwide competitive entrance exams to the Grandes Ecoles for scientific studies.
GPA 4.00/4.00

RESEARCH INTERESTS

Sequential decision-making under uncertainty, development of data-driven algorithms in heterogeneous and data-scarce environments, with applications in pricing and inventory planning

JOURNAL PUBLICATIONS

"How Big Should Your Data Really Be? Data-Driven Newsvendor: Learning One Sample at a Time"
with Omar Besbes. *Management Science* (Articles in Advance)
★ First Place, RMP Jeff McGill Student Paper Award, 2021
★ Finalist, INFORMS George Nicholson Student Paper Competition, 2021
★ Finalist, APS Best Student Paper Award, 2021

REFEREED CONFERENCE PROCEEDINGS

"Beyond IID: Data-Driven Decision-Making in Heterogeneous Environments"
with Omar Besbes and Will Ma. In Advances of Neural Information Processing Systems (NeurIPS 2022)
Journal version: Major revision in *Management Science*

SUBMITTED TO REFEREED JOURNALS

"From Contextual Data to Newsvendor Decisions: On the Actual Performance of Data-Driven Algorithms"
with Omar Besbes and Will Ma. Under Review in *Management Science*

"Joint Assortment and Inventory Planning under the Markov chain Choice Model"
with Omar El Housni, Guillermo Gallego, Vineet Goyal, Humair Salal, Ali Sadighian, Kim Sangjo, Jingchen Wu. Major Revision in *Management Science*

WORKING PAPERS

"Pricing with Binary Feedback: the Value of Information Bit by Bit"
with Omar Besbes and Will Ma. Working paper (2023)

"Fast Revenue Maximization with Few Experiments"
with Achraf Bahamou and Omar Besbes. Working paper (2023)

"Adversarial Feature Based Dynamic Pricing"
joint with Vineet Goyal. Technical Report, École Polytechnique (2019)
★ École Polytechnique Research Prize in Computer Science, 2019

AWARDS	Deming Center Doctoral Fellowship, 2022-2023 Doctoral fellow

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Deming Center Doctoral Fellowship, 2022-2023 Doctoral fellow
Paul and Sandra Montrone Doctoral Fellowship, 2022
First Place, RMP Jeff McGill Student Paper Award, 2021
Finalist, INFORMS George Nicholson Student Paper Competition, 2021
Finalist, APS Best Student Paper Award, 2021
École Polytechnique Research Prize in Computer Science, 2019
Bronze Medalist, ACM International Collegiate Programming Contest, Southwestern Europe Regional Contest, Paris 2017
Bronze Medalist, the 24th International Math Competition, Bulgaria 2017
French Government's Major-Excellence Scholarship, 2014

INDUSTRY EXPERIENCE

Amazon.com, Applied Scientist Intern, New York, NY, USA   March 2021- May 2021
Part-time internship in the Supply Chain and Optimization Technology (SCOT) team.

IBM Extreme Blue Program, Paris, France   Summer 2018
Designed a multi-organization network for French public administration based on a blockchain technology. 2nd prize, Best Pitch at the European Extreme Blue seminar

TEACHING EXPERIENCE

Columbia University, **Teaching Assistant**
Operations Management (EMBA core)   Spring 2022
Business Analytics (MBA core)   Fall 2021/Fall2022
Business Analytics (MBA elective)   Summer 2020/Summer 2021

Open Sciences (Science Ouverte), Drancy, France   Sept 2016 - Apr 2017
Tutored middle school, high school and undergraduate students from underprivileged neighborhoods.

OUTSIDE ACTIVITIES

Student Representative, Columbia University   2021-2023
Student representative for the Decision Risk and Operations division.

Board of Directors, École Polytechnique   2017-2019
Elected student representative for the 2016 Class on the Board of Directors of Ecole Polytechnique.

Math&Maroc, Casablanca, Morocco   2016-2019
Co-founder and vice-president of Math&Maroc: an association dedicated to the preparation of Moroccan high school students to international mathematics competitions.
Organized intensive math courses in partnership with the Ministry of Education.

SKILLS

English/French/Arabic: Fluent   **Spanish:** Intermediate
Programming: Python, Java, C/C++, JavaScript, PHP, HTML, CSS

SELECTED PRESENTATIONS

From Contextual Data to Newsvendor Decisions: On the Actual Performance of Data-Driven Algorithms
RMP Annual Conference, London   July 2023
MSOM Annual Conference, Montreal   June 2023
POMS Annual Conference, Orlando   May 2023
Deming Center Doctoral Fellow Seminar, New York   April 2023

Beyond IID: Data-Driven Decision-Making in Heterogeneous Environments
APS Conference, Nancy   June 2023
Columbia Economics Interdisciplinary Market Design Seminar, New York   March 2023
Rotman OM&S Data Science Seminar, Online   December 2022
NeurIPS (Poster), New Orleans   December 2022
INFORMS Annual Meeting, Indianapolis   October 2022
CFOL Workshop at ICML (Poster), Baltimore   July 2022
RMP Annual Conference, Online   June 2022
Marketplace Innovation Workshop, Online   May 2022

How Big Should Your Data Really Be? Data-Driven Newsvendor: Learning One Sample at a Time

MSOM Supply Chain Management SIG Meeting, Munich	June 2022
INFORMS Annual Meeting, Anaheim	October 2021
MSOM Annual Conference, Online	June 2021
RMP Annual Conference, Online	June 2021
Amazon.com, Online	May 2021

Joint Assortment and Inventory Planning under the Markov Chain choice Model

MSOM Annual Conference, Online	June 2021
INFORMS Annual Meeting, Online	Nov 2020