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* (forthcoming)

- ★ First Place, RMP Jeff McGill Student Paper Award, 2021
- \bigstar Finalist, INFORMS George Nicholson Student Paper Competition, 2021
- ★ Finalist, APS Best Student Paper Award, 2021

Refereed Conference

"Beyond IID: Data-Driven Decision-Making in Heterogeneous Environments"

with Omar Besbes and Will Ma. In Advances of Neural Information Processing Systems (NeurIPS) (2022)

PROCEEDINGS

Submitted to

REFEREED JOURNALS "Joint Assortment and Inventory Planning for Heavy Tailed Demand"

joint with Omar El Housni, Guillermo Gallego, Vineet Goyal, Humair Salal, Ali Sadighian, Kim Sangjo, Jingchen Wu. Under Review (2021)

Working Papers

"From Contextual Data to Newsvendor Decisions: On the Actual Performance of Data-Driven Algorithms"

with Omar Besbes and Will Ma. Working paper

"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

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. 2^{nd} prize, Best Pitch at the European Extreme Blue seminar

TEACHING EXPERIENCE

Columbia University, Teaching Assistant

Operations Management (EMBA core) Business Analytics (MBA core) Spring 2022 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

POMS Annual Conference, Orlando

May 2023

Deming Center Doctoral Fellow Seminar, New York April 2023

Beyond IID: Data-Driven Decision-Making in Heterogeneous Environments

Columbia Economics Interdisciplinary Market Design Seminar, New York
Rotman OM&S Data Science Seminar, Online
NeurIPS (Poster), New Orleans
INFORMS Annual Meeting, Indianapolis
CFOL Workshop at ICML (Poster), Baltimore
RMP Annual Conference, Online
Marketplace Innovation Workshop, Online

March 2023
December 2022
December 2022
December 2022
December 2022
December 2022
Marketplace Innovation Workshop, Online
March 2023
December 2022
December 2022
Marketplace Innovation Workshop, Online
March 2023
December 2022

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

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

Joint Assortment and Inventory Planning for Heavy Tailed Demand

MSOM Annual Conference, Online

June 2021
INFORMS Annual Meeting, Online

Nov 2020