

275 Medford Street,
Somerville, 02143, MA
(530)-302-6432
<https://moiseb.github.io/>
moiseb@mit.edu

Moïse Blanchard

EDUCATION

2019 – Present
Cambridge, MA

Massachusetts Institute of Technology
Ph.D. candidate in Operations Research
Main courses: Mathematical programming, Statistical Learning, Robust Optimization, Reinforcement Learning. GPA: 5.0/5.0

2016 – 2020
Palaiseau, France

Ecole Polytechnique, Valedictorian
MS and BS in Applied Mathematics in the top-ranking school in France
Main courses: Mathematics, Computer Science and Physics. GPA: 4.0/4.0

2014 – 2016
Paris, France

Prépa at Lycée Louis-le-Grand
Two-year intensive post-secondary studies leading to nationwide exams

RESEARCH and WORK EXPERIENCE

Aug. 2019 – Present
Cambridge, MA

Massachusetts Institute of Technology, *Doctoral Research Assistant*
Advisor: Prof. Patrick Jaillet.
Learnability in Online Learning and Reinforcement Learning

May. 2020 – Aug. 2020
Cambridge, MA

Amazon Inc., *Research Intern*
Large-scale optimization for Amazon's supply chain

March. 2019 – Jul. 2019
Davis, CA

University of California, *Visiting researcher* with Prof. Jesus De Loera
Simplex method for linear optimization and diameters of polytopes

Sep. 2018 – March. 2019
Paris, France

INRIA, *Research Assistant* with Prof. Laurent Massoulié
Reconstruction of graphs from local neighbourhoods

Sep. 2017 – March. 2018
Palaiseau, France

Ecole Polytechnique, *Research Assistant* with Prof. Gabriel Peyré
Optimal Transport for Natural Language recognition and classification

PUBLICATIONS

Non-stationary Contextual Bandits with Non-i.i.d. Contexts

with Prof. Steve Hanneke and Prof. Patrick Jaillet, working paper

Fréchet Means Set Estimation in the Hausdorff Metric

with Adam Jaffe, working paper

Contextual Bandits and Optimistically Universal Learning

with Prof. Steve Hanneke and Prof. Patrick Jaillet, submitted to Annals of Statistics, 2022

Universal Regression with Adversarial Responses

with Prof. Patrick Jaillet, submitted to Annals of Statistics, 2022

Universal Online Learning: an Optimistically Universal Learning Rule,

35th Annual Conference on Learning Theory (COLT), 2022, **COLT 2022 Best student paper runner-up**

Universal Online Learning with Bounded Loss: Reduction to Binary Classification

with Romain Cosson, 35th Annual Conference on Learning Theory (COLT), 2022

Shallow and Deep Networks are Near-Optimal Approximators of Korobov Functions

with Amine Bennouna, 10th International Conference on Learning Representations (ICLR), 2022

Universal Online learning with Unbounded Losses: Memory is All You Need

with Romain Cosson and Prof. Steve Hanneke, 33rd International Conference on Algorithmic Learning Theory (ALT), 2022

Probabilistic bounds on the Traveling Repairman Problem and the k-Traveling Salesman Problem

with Prof. Alexandre Jacquillat and Prof. Patrick Jaillet, submitted to INFORMS Mathematics of Operations Research, 2021

On the Length of Monotone Paths in Polyhedra

with Prof. Jesus De Loera and Prof. Quentin Louveaux, SIAM Journal of Discrete Mathematics, 2021

Winner of the Rivot medal from the French Science Academia.

Shotgun Assembly of Graphs and Lattices

with Romain Cosson and Prof. Laurent Massoulié, working paper

TEACHING EXPERIENCE

Fall 2020 <i>Cambridge, MA</i>	Massachusetts Institute of Technology , <i>Teaching Assistant in 6.215/15.093J</i> Optimization Methods
Fall 2019 <i>Cambridge, MA</i>	Massachusetts Institute of Technology , <i>Teaching Assistant in 15.072</i> Advanced Analytics Edge: core course of the Master of Business Analytics (MBAN)
Sep. 2017 – June 2019 <i>Paris, France</i>	Lycée Condorcet , <i>Teaching Assistant</i> Advanced mathematics for undergraduate students in <i>Classes Préparatoires</i>

AWARDS

Aug 2022	Bronze medal, Alibaba Global Mathematics Competition
July 2022	COLT 2022 Best student paper runner-up (<i>Universal Online Learning: an Optimistically Universal Learning rule</i>)
March 2022	\$5000 for solving open problems from COLT 2021 in universal learning
Jan 2022	Best paper award at MIT LIDS Conference (<i>Learnability and Algorithms for Universal Online Learning</i> with Romain Cosson and Prof. Steve Hanneke)
July 2021	Honorable Mention, Alibaba Global Mathematics Competition
Feb 2020	2 nd prize at The East Coast Data Open, Datathon organized by Citadel
Nov 2019	Laplace medal from the French Science Academia,
Nov 2019	Rivot medal from the French Science Academia
July 2019	Valedictorian of Ecole Polytechnique
July 2015	Bronze medal at 46 th International Physics Olympiad (IPhO)
July 2014	Bronze medal at 55 th International Mathematics Olympiad (IMO)
June 2014	Silver medal at 18 th Junior Balkan Mathematics Olympiad (JBMO)
May 2014	1 st prize at “Concours Général” in Mathematics

SKILLS

<i>Programming:</i>	Python, Julia, R, C++, SQL
<i>Languages:</i>	French (mother tongue), English (fluent), Spanish (fluent)
<i>Interests:</i>	Cello, Piano, Swimming, Cycling (bicycle trip across the US in 2016)