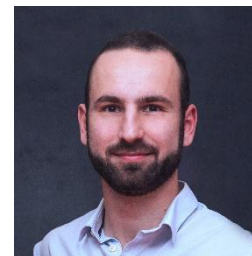# Rémi **Castera**

r-casera.github.io, remi.castera@prorontmail.com

CURRENT POSITION

Postdoc – Moroccan Center for Game Theory, UM6P (since November 2024)

PAST EXPERIENCE

PhD - Grenoble-Alpes University - LIG/POLARIS team (October 2021 – October 2024)
Studied questions related to efficiency and fairness in matching problems with and without preferences, using tools from probability theory, combinatorial optimization, differential calculus and game theory. Supervised by Patrick Loiseau and Bary Pradelski.

Research Internship - Grenoble-Alpes University - LIG/POLARIS team (Avril – Septembre 2021)
Studied statistical discrimination in stable matching problems. Supervised by Patrick Loiseau.

Research Internship - Centralesupelec - CVN/OPIS team (May – August 2020)
Studied graph neural networks, in particular their performance on regression tasks and their robustness to adversarial attacks. Supervised by Jean-Christophe Pesquet.

R&D Internship - Mikros Animation - Software Engineering (June – August 2019)
Developed shape correction tools for 3D models as plug-ins for Autodesk Maya.

EDUCATION

PhD - Applied Mathematics - Efficiency and Fairness in Matching Problems
Grenoble-Alpes University/LIG, Grenoble, France, 2021 – 2024

Master of Science – Optimization
IP Paris/Université Paris-Saclay, Palaiseau, France, 2020 – 2021

Engineering Degree – Applied Mathematics
Ecole Polytechnique, Palaiseau, France, 2017 – 2021

Bachelor of Science - Mathematics
Université Lyon 1, Lyon, France, 2014 – 2017

PUBLICATIONS

R. Castera, P. Loiseau, and B. S. R. Pradelski. **Statistical discrimination in stable matchings**. In Proceedings of the 23rd ACM Conference on Economics and Computation, EC '22, page 373–374, New York, NY, USA, 2022. Association for Computing Machinery.

WORKING PAPERS

R. Castera, F. Garrido-Lucero, M. Molina, S. Mauras, P. Loiseau, and V. Perchet. **The Price of Opportunity Fairness in Matroid Allocation Problems.**. https://arxiv.org/abs/2403.00397

R. Castera, P. Loiseau, and B. S. R. Pradelski. **Correlation of Rankings in Matching Markets**. https://hal.science/hal-03672270

TALKS IN INTERNATIONAL CONFERENCES

12th Conference on Economic Design (Padova, Italy, June 9-11 2022): Statistical discrimination in stable matchings

23rd ACM Conference on Economics and Computation (Boulder, CO, USA, July 11-15 2022): Statistical discrimination in stable matchings

33rd Stony Brook International Conference on Game Theory (Stony Brook, NY, USA, July 18-21 2022): Statistical discrimination in stable matchings

From Matching to Markets: A Tale of Mathematics, Economics and Computer Science (CIRM, Marseile, France, December 11 2023): Statistical discrimination in stable matchings

19th Matching in Practice Workshop (Zurich, Switzerland, March 18-19 2024): Correlation of Rankings in Matching Markets

Matching Markets and Inequality (Exeter, UK, June 20-21 2024): Correlation of Rankings in Matching Markets

GAIMSS Workshop (Metz, France, June 27-28 2024): The Price of Fairness in Bipartite Matching

TEACHING EXPERIENCE

Mohammed VI Polytechnic University:
Game Theory (Nov-Dec 2024)

Grenoble-Alpes University:
MAT201: Introduction to linear algebra (teaching assistant, Jan-May 2022)
INF202: Modeling of information structures - formal logic and binary relations (teaching assistant, Jan-May 2022)
MAT309: Algebra and arithmetic (teaching assistant, Sep 2022-Jan 2023)
MAT406: Computer assisted mathematics (teaching assistant, Jan-May 2023)

Lycée militaire d'Aix-en-Provence
Teaching assistant in mathematics and physics for all high school and undergraduate students (Nov-April 2018)

LANGUAGES

French - Native speaker
English - Fluent
Italian - Fluent

Spanish - Intermediate
Ukrainian - Intermediate
Arabic - Beginner

WORKPLACE INVOLVEMENT

Mohammed VI Polytechnic University:
      Co-organizer of the Winter School on Data Economics (Jan 20-24 2025)

Grenoble-Alpes University/LIG:
      Certified workplace rescuer (SST)
      Trained in mental health first aid (PSSM/MHFA)

VOLUNTEERING

French Red Cross:
      Grenoble local unit - Board of emergency management and first aid: responsible for operational capacity (May 2022-October 2023)
      Rescue team leader, emergency management officer, ambulance driver (Oct 2021 - today)
      Certified instructor for training rescuers and teaching first aid to the general population (May 2023 - today)
      Social patrols, distribution of food, clothes and essential products, night shelter management (April 2022 - today)

ASK:
      Social patrols, distribution of food, clothes and essential products (Sept 2018 - Mar 2020)