Federico Bobbio

Contact Information

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Current Position

Postdoctoral Researcher. Northwestern University (NU), Department of Electrical and Computer Engineering, Evanston, Il, USA — June 2024–ongoing

Advisors: *Michael Honig* (NU), *Randall Berry* (NU), *Rakesh Vohra* (UPenn), *Thanh Nguyen* (Purdue), *Vijay Subramanian* (UMich)
Affiliations: *Communications & Networking Lab*; *Spectrum X*

Education

Ph.D.. University of Montreal, Department of Computer Science and Operations Research, Montreal, Quebec, Canada — Jan 2024

Advisor: *Margarida Carvalho* *Thesis:* Dynamic Capacities and Priorities in Stable Matching (excellence mention) *Affiliations:* *CERC Data Science for Real-Time Decision-Making*; *FRQ-IVADO Data Science for Combinatorial Game Theory*; *CIRRELT*

M.Sc. in Theoretical Mathematics (Logic). University of Pisa, Department of Mathematics Pisa, Italy — Oct 2017

Advisor: *Alessandro Berarducci* *Thesis:* Rationality of regret in strategic games (summa cum laude)

Visiting. University of Amsterdam, Institute for Logic, Language and Computation, Amsterdam, The Netherlands — Fall 2016

Advisor: *Johan van Benthem*

Publications

- **F. Bobbio**, M. Carvalho, A. Torrico, A. Lodi, I. Rios, *Capacity Planning in Stable Matching: An Application to School Choice* [pdf]. **Accepted** at EC'23 (26% acceptance rate) and **Accepted** at **Operations Research** (2025).
- **F. Bobbio**, R. Berry, M. Honig, T. Nguyen, V. Subramanian, R. Vohra, *Costly Measurements to Incentivize Spectrum Sharing* [link]. **Accepted** at **DySpan'25**.
- L. Bliek, P. da Costa, R. Refaei Afshar, Y. Zhang, T. Catshoek, D. Vos, S. Verwer, F. Schmitt-Ulms, A. Hottung, T. Shah, M. Sellmann, K. Tierney, C. Perreault-Lafleur, C. Leboeuf, **F. Bobbio**, J. Pepin, W. Almeida Silva, R. Gama, H. L. Fernandes, M. Zaefferer, M. López-Ibáñez, E. Irurozki, *The First AI4TSP Competition: Learning to Solve Stochastic Routing Problems* [pdf]. **Artificial Intelligence**, Elsevier (2023).
- **F. Bobbio**, M. Carvalho, A. Nabli, S. Sankaranarayanan, S. Germain, M. O. Hassan, B. Ndao, G. Pagé, J. Piche-Bisson, V. Purenne, R. Shaul, *Optimizing the Design of a Loyalty Program* [pdf]. In Proceedings of the Ninth Montreal Industrial Problem-Solving Workshop, August 19–23, 2019.
- **F. Bobbio**, J. Cui, *A Plausibility Model for Regret Games* [link]. In **Multi-Agent Systems and Agreement Technologies**, Springer, pp. 187–200, 2017.

Working Papers

- **F. Bobbio**, R. Berry, M. Honig, T. Nguyen, V. Subramanian, R. Vohra, *Sharing with Frictions: Limited Transfers and Costly Inspections*. **In preparation for** Operations Research.

- **F. Bobbio**, M. Carvalho, A. Torrico, A. Lodi, *Capacity Variation in the Many-to-one Stable Matching* [pdf]. **Revise & resubmit** at Operations Research Letters.
- Ignacio Rios, **F. Bobbio**, M. Carvalho, Alfredo Torrico, *Stable Matching with Contingent Priorities* [pdf]. **Accepted** at EC'25 and **Accepted** at EAAMO 2023 (poster); under review at Management Science.
- **F. Bobbio**, M. Carvalho, *Balancing Fairness and Match Quality.* **Accepted** at EAAMO 2024 (poster).

Technical reports

- W. A. Silva, **F. Bobbio**, F. Caye, D. Liu, J. Pepin, C. Perreault-Lafleur, W. St-Arnaud "Design and Implementation of an Heuristic-Enhanced Branch-and-Bound Solver for MILP." **Report** of the method for the MIP 2022 Competition. **Poster** at the MIP 2022 workshop.

Grants and Awards (Selected)

Best Paper Award: Policy Track at IEEE DySPAN for: *Costly Measurements to Incentivize Spectrum Sharing*	May 2025
Runner-up Award at the Open Student Paper Competition (Canadian Operational Research Society) for: *Capacity Planning in Stable Matching: An Application to School Choice*	May 2023
Excellence Scholarship - CIRRELT	Jan 2023
Outstanding Student Submission (Honorable Mention and Team Leader) at the MIP Computational Competition 2022	May 2022
Excellence Scholarship – Department of Computer Science and Operations Research, University of Montreal	2020, 2021
1st Place at the AI for TSP Competition (IJCAI 2021)	Aug 2021
Excellence Scholarship (Bourse C) – University of Montreal	2019–2020

Work Experience

Research Consultant. CERC Data Science for Real-Time Decision-Making, Montreal, Quebec, Canada *Advisor: Andrea Lodi* *Affiliations: CIRRELT*	Jan 2024–June 2024
Research Assistant. Bocconi University, Department of Decision Sciences, Milan, Italy *Advisor: Pierpaolo Battigalli*	Nov 2017–Nov 2018

Teaching and Academic Service

Teaching Assistant [en français] *Models of Operations Research, University de Montreal, Department of Computer Science and Operations Research. Average evaluation in Fall 2022: 3.9/4.0*	Fall 21, 22; Winter 22
Teaching Assistant *Game Theory, Bocconi University, Department of Decision Sciences*	Spring 2018
CERC DS4DM: Organization of Coffee Talks on Machine Learning, Game Theory and Optimization — University of Montreal	Fall 2021–Summer 2024
Treasurer of EAAMO'23	Fall 2023

Reviewer: Theoretical Computer Science, Dynamic Games and Applications, EAAMO, Faact, Social Choice and Welfare, IPCO, MATCH-UP, GAIW

Talks [T] and Posters [P] (Selected)

[P] **Young Researchers Workshop**, Cornell University. *Sharing with Frictions: Limited Transfers and Costly Inspections*	Oct 2025
[T] **FutureBAProf**, University of Iowa. *Sharing with Frictions: Limited Transfers and Costly Inspections*	Aug 2025
[T] **Dagsthul**, Dealing with Complexities in Auction and Matching Market Design. *Sharing with Frictions: Limited Transfers and Costly Inspections*	Feb 2025
[T] **ISMP**. *Stable Matching with Contingent Priorities*	July 2024
[T] **Devavrat Shah's group**, EECS at MIT. *PhD Thesis*	Feb 2024
[P] **SLMath**, Berkeley, Algorithms, Approximation, and Learning in Market and Mechanism Design. *Capacity Planning in Stable Matching: An Application to School Choice*	Oct 2023
[P] **Young Researchers Workshop**, Cornell University. *Capacity Planning in Stable Matching: An Application to School Choice*	Oct 2023
[T] **EC**. *Capacity Planning in Stable Matching: An Application to School Choice*	July 2023
[T] **MSOM**. *Stable Matching with Contingent Priorities*	June 2023
[T] **MATCH-UP**. *Capacity Planning in Stable Matching: An Application to School Choice*	Aug 2022

Programming (Solvers)

Python (Gurobi, SCIP), Julia (Gurobi)

Languages

Italian (native), English (proficient), French (advanced), Spanish (conversational)