Francesco Morri

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Education

Sorbonne Université Sep 2021 – Jul 2022
- M2 in Physics of Complex Systems (i-PCS)
- **Final Grade:** 16/20 (trés bien)

Abdus Salam International Centre for Theoretical Physics (ICTP) Feb 2022 – Mar 2022
- Spring College in the Physics of Complex Systems

Politecnico di Torino Sep 2020 – Oct 2022
- MSc in Physics of Complex Systems (International Track)
- **Final Grade:** 110/110 cum laude

Università di Bologna Oct 2017 – Sep 2020
- BSc in Physics
- **Final Grade:** 110/110

Experience

Visiting Student, Universidad de O'Higgins, Rancagua, Chile May 2025
Supervisor: David Salas
I worked on a non-cooperative games and conjectural games.

Visiting Student, Polytechnique Montréal, Montréal, Canada Jul 2024 - Sep 2024
Supervisors: Quentin Cappart, Hanane Dagdougui
I worked on machine learning to enhance optimization algorithms.

Visiting Student, Polytechnique Montréal, Montréal, Canada Nov 2023
Supervisor: Quentin Cappart
I worked with Quentin Cappart on optimiazation algorithms for smart building, focusing on the NeurIPS Citylearn Challenge 2023 (which we won). The visit was part of the Galangal project, a collaboration of researchers from Lille, Montréal and Edinburgh.

Research Intern, Institut de Physique Théorique (IPHT), Saclay, France Mar 2022 - Jul 2022
Supervisor: Pierfrancesco Urbani
I studied simple algorithms to solve continuous constraints satisfaction problems close to their satisfiability transition, using statistical mechanics and spin glasses theory.

Visiting Student, SISSA & ICTP, Trieste, Italy Sep 2020 - Jan 2021
I attended courses with PhD students of both SISSA and ICTP as part of my first semester in the Master in Physics of Complex Systems (International Track)

Publications

Winning the 2023 CityLearn Challenge: A Community-Based Hierarchical Energy Systems Coordination Algorithm 2024
Authors: A. I. Garmendia, F. Morri, Q. Cappart, H. Le Cadre
27th European Conference on Artificial Intelligence (ECAI)

Learning in Stackelberg Games with Application to Strategic Bidding in the Electricity Market 2024
Authors: F. Morri, H. Le Cadre, P. Gruet, L. Brotcorne
20th International Conference on the European Energy Market (EEM)

On the Thermodynamic Interpretation of Deep Learning System 2021
Authors: R. Fioresi, F. Faglioni, F. Morri, L. Squadrani
Geometric Science of Information. GSI 2021. Lecture Notes in Computer Science, vol 12829. Springer

Pre-prints

Nonconvex Game and Multi Agent Reinforcement Learning for Zonal Ancillary Markets 2025
Authors: F. Morri, H. Le Cadre, P. Gruet, L. Brotcorne
Submitted to *Transactions on Control of Network Systems* in June 2025

Learning in Conjectural Stackelberg Games 2025
Authors: F. Morri, H. Le Cadre, L. Brotcorne

Talks and Presentations

GAIW: Learning in Conjectural Stackelberg Games - *F. Morri, H. Le Cadre, L. Brotcorne* 2025 - Detroit, USA
7th Games, Agents, and Incentives Workshop

ROADEF: Learning in Conjectural Stackelberg Games - *F. Morri, H. Le Cadre, L. Brotcorne* 2025 - Paris, France
26ème Congrés Annuel de la Société Francaise de Recherche Opérationelle et d'Aide à la Décision

ISMP: Learning in Multi-Leader Single-Follower Stackelberg Games - *F. Morri, H. Le Cadre, L. Brotcorne* 2025 - Montréal, Canada
25th International Symposium on Mathematical Programming

IMACS: Multi-Agent Reinforcement Learning for Strategic Bidding in the Electricity Market - *F. Morri, H. Le Cadre, P. Gruet, L. Brotcorne* 2023 - Roma, Italy
21st International Association for Mathematics and Computers in Simulation World Congress

Fime Summer School on Big Data & **Finance:** Multi-Agent Reinforcement Learning for Strategic Bidding in Two Stage Electricity Markets - *F. Morri, H. Le Cadre, P. Gruet, L. Brotcorne* 2023 - Aussois, France

LION17: Multi-Agent Reinforcement Learning for Strategic Bidding in Two Stage Electricity Markets - *F. Morri, H. Le Cadre, P. Gruet, L. Brotcorne* 2023 - Nice, France
17th Learning and Intelligent OptimizatioN Conference

Teaching

Object Oriented Programming, *École Centrale de Lille, G1/G2* 2025
The goal of this course is to introduce the basic concepts of object oriented programming with Java. It is organized in 40h of lab sessions, where the students have to develop small projects following the teacher's instructions.
Contribution: I followed a class of 16 students, teaching the basics of the Java language and helping with coding exercise. I then participated in the oral exam at the end of the course.

Technical Skills

Coding:

- **Experienced:** C++ (ROOT, GSL), Python (PyTorch, Numpy, Pandas, Matplotlib)
- **Familiar:** JavaScript
- **Basics:** Java, HTML, CSS

Languages:

- **Native:** Italian
- **Fluent:** English
- **Intermediate:** French