Anna M. Maddux

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EDUCATION

École Polytechnique Fédérale de Lausanne (EPFL)
Feb 2022 – Present

PhD in Multi-agent learning
- PhD supervisor: Maryam Kamgarpour

Massachusetts Institute of Technology (MIT)
April 2025 – June 2025

Research ecxchange
- Visiting host: Gabriele Farina

Eidgenössische Technische Hochschule Zürich (ETHZ)
Sept 2019 – May 2021

M.S. in Statistics
- Master's Thesis: "Behaviour Estimation in Dynamic Games"
  (https://www.researchcollection.ethz.ch/handle/20.500.11850/485983)

Albert Ludwig University of Freiburg
Oct 2015 – March 2019

B.S. in Mathematics
- Bachelor's Thesis: "Symmetric Random Walks and a Gerneralization of the Borel-Cantelli Lemma"

Albert Ludwig University of Freiburg
Oct 2013 – Feb 2019

B.S. in Economics
- Bachelor's Thesis: "Hyperparameter Optimization of Neural Networks: Grid Search versus Random Search"

RESEARCH AND WORK EXPERIENCE

ETH Zürich | *Research Assistant*
Oct 2021 – Dec 2021

Computational Social Science (COSS) Group under the Supervision of Dirk Helbing

ETH Zürich | *Research Assistant*
May 2021 – July 2021

Automatic Control Laboratory (IfA) Group under the Supervision of Florian Dörfler

Daimler Benz Stuttgart | *Data Science Intern*
April 2019 – Aug 2019

Advanced Analytics and Big Data Group

German Bundestag Berlin | *Research Intern*
Jan 2019 – Feb 2019

Supervisor: Dr. Christoph Hoffmann, Member of the German Parliament

FELLOWSHIPS

Accenture Female Talent Program
March 2020 – Oct 2020

Mentoring program to promote females in STEM and economics

Fellow of the Friedrich Naumann Foundation for Freedom
Oct 2017 – May 2021

Academic scholarship throughout my undergraduate and graduate studies (held by 1% of German university students)

PUBLICATIONS

* authors contributed equally; + mentored student

CONFERENCE AND JOURNAL PUBLICATIONS

Anna Maddux, Marko Maljkovic*, Nikolas Geroliminis, Maryam Kamgarpour. No-Regret Learning in Stackelberg Games with an Application to Electric Ride-Hailing. IEEE Conference on Decision and Control (CDC), 2025.

Anna Maddux, Maryam Kamgarpour. Multi-Agent Learning in Contextual Games under Unknown Constraints. Artificial Intelligence and Statistics Conference (AISTATS), 2024.

Gabriel Vallat[+], Jingwen Wang, **Anna Maddux**, Maryam Kamgarpour, Stefana Parascho. Reinforcement learning for scaffold-free construction of spanning structures. ACM Symposium on Computational Fabrication (ACM SCF), 2023.

Anna Maddux, Nicolò Pagan, Giuseppe Belgioioso, Florian Dörfler. Data-driven behaviour estimation in parametric games. International Federation of Automatic Control (IFAC), 2023.

Preprints and under Submission

Tingting Ni*, **Anna Maddux***, Reda Ouhamma*, Maryam Kamgarpour. On characterization and existence of a constrained correlated equilibria in Markov games. In submission (arXiv:2507.03502), 2025.

Anna Maddux*, Reda Ouhamma*, Maryam Kamgarpour. Finite-time convergence to an ϵ-efficient Nash equilibrium in potential games. In submission (arXiv:2405.15497), 2024.

Professional Activities, Leadership, and Service

Conference and Workshop Organization

Workshop Organizer, Workshop on Entrepreneurship and Innovation | *Beatenberg, Switzerland*   April 2024
Junior retreat of the NCCR Automation

Peer Review

International Conference on Machine Learning (ICML) Workshop, International Federation of Automatic Control (IFAC), European Control Conference (ECC), Conference on Decision and Control (CDC)

Teaching

University Courses

Teaching Assistant, Foundations of Artificial Intelligence | *EPFL Lausanne*	Fall 2024
Teaching Assistant, Multi-Agent Learning and Control | *EPFL Lausanne*	Spring 2024
Teaching Assistant, Foundations of Artificial Intelligence | *EPFL Lausanne*	Fall 2023
Teaching Assistant, Foundations of Artificial Intelligence | *EPFL Lausanne*	Fall 2022
Teaching Assistant, Analysis 2 | *ETH Zürich*	Spring 2020
Teaching Assistant, Microeconomics 1 | *Albert Ludwigs University of Freiburg*	Fall 2016
Teaching Assistant, Microeconomics 2 | *Albert Ludwigs University of Freiburg*	Spring 2016
Teaching Assistant, Microeconomics 1 | *Albert Ludwigs University of Freiburg*	Fall 2015

Science Education

Presentation at the Gymnasium Neufeld | *Bern, Switzerland*   March 2025
Presentation on "Mathematics of the cities of the future" at the Swiss TecDays.

Presentation at the Kantonsschule Reussbühl | *Reussbühl, Switzerland*   Nov 2024
Presentation on "Mathematics of the cities of the future" at the Swiss TecDays.

Presentation at the Kantonsschule Wohlen | *Wohlen, Switzerland*   Oct 2024
Presentation on "Mathematics of the cities of the future" at the Swiss TecDays.

Presentation at the Kantonsschule Beromünster | *Beromünster, Switzerland*   Feb 2024
Presentation under the NCCR Automation initiative "A researcher in my class".

Mentoring

Leo Landolt, Master's thesis | *EPFL Lausanne*   Jan 2025 - Aug 2025
Title: "VCG mechanism for truthful demand response via preference feedback".
Co-supervision with Andreas Schlaginhaufen (EPFL), Saurabh Vaishampayan,
and Maryam Kamgarpour (EPFL).

Hana Catic, Semester project | *EPFL Lausanne*   Sept 2024 - Jan 2024
Title: "Finite time convergence to an ϵ-efficient Nash equilibrium in potential games".
Co-supervision with Reda Ouhamma (EPFL), and Maryam Kamgarpour (EPFL).

Antoine Bergerault, Semester project | *EPFL Lausanne*   Feb 2023 - June 2024
Title: "Learning to maximize the social welfare from preference feedback".
Co-supervision with Andreas Schlaginhaufen (EPFL), and Maryam Kamgarpour (EPFL).

César Camus-Emschwiller, Semester project | *EPFL Lausanne*   Feb 2023 - June 2024
Title: "Learning in potential games with coupling constraints - Practical application".
Co-supervision with Gabriel Vallat (EPFL), and Maryam Kamgarpour (EPFL).

Julien Drouet, Semester project | *EPFL Lausanne* Feb 2023 - June 2024
Title: "Learning in Potential Games with Coupling Constraints".
Co-supervision with Gabriel Vallat (EPFL), and Maryam Kamgarpour (EPFL).

Sabri El Amrani, Semester project | *EPFL Lausanne* Sept 2023 - Jan 2024
Title: "Reinforcement Learning from Human Feedback for the Construction of Spanning Structures".
Co-supervision with Andreas Schlaginhaufen (EPFL), and Maryam Kamgarpour (EPFL).

Dana Afazeli, E3 summer internship | *EPFL Lausanne* June 2023 - Sept 2023
Co-supervision with Kai Ren (EPFL), and Maryam Kamgarpour (EPFL).

Titouan Renard, Master's thesis | *EPFL Lausanne* Feb 2023 - July 2023
Title: "Provable Convergence Guarantees for Constrained Inverse Reinforcement Learning".
Co-supervision with Andreas Schlaginhaufen (EPFL), Tingting Ni (EPFL), and Maryam Kamgarpour (EPFL).

Riccardo Ruzza, Bachelor project | *EPFL Lausanne* Feb 2023 - June 2023
Co-supervision with Giulio Salizzoni (EPFL), and Maryam Kamgarpour (EPFL).

Julien Gouraud, Bachelor project | *EPFL Lausanne* Feb 2023 - June 2023
Co-supervision with Giulio Salizzoni (EPFL), and Maryam Kamgarpour (EPFL).

Gabriel Vallat, Master's thesis | *EPFL Lausanne* Sept 2022 - Jan 2023
Title: "Reinforcement learning for scaffold-free construction of spanning structures".
Co-supervision with Maryam Kamgarpour (EPFL), and Stefana Parascho (EPFL). Resulting paper accepted at ACM 2023.

Dorsa Majdi, E3 summer internship | *EPFL Lausanne* June 2022 - Sept 2022
Co-supervision with Maryam Kamgarpour (EPFL).

LANGUAGES

Computer Languages: Python, Matlab, LaTeX
Languages: German (mother tongue), English (fluent), French (B1)