ADRIÀ FENOY BARCELÓ

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SUMMARY

Ph.D. graduate in Computer Science, specializing in deep learning and optimization. With a strong academic background, including a Bachelor's degree in Physics and a Master's degree in Modelling for Science and Engineering, I'm proficient in quantitative analysis, using programming and statistical tools to uncover data insights. My insatiable curiosity fuels rapid learning, while my creative mindset devises innovative solutions. I am adept at working effectively both independently and within team environments, demonstrating strong interpersonal skills and the ability to thrive in diverse collaborative situations. I maintain a consistently positive attitude at work, even in challenging situations, fostering a constructive and supportive atmosphere which contributes to a harmonious and motivated team dynamic.

EDUCATION

Università degli studi di Verona Verona, Italy

Ph.D. in Computer Science Sep 2019 - Mar 2023

Dissertation: *Combining Machine Learning with Combinatorial Optimization for the Formation of Collectives*

Academic advisor: *Alessandro Farinelli and Filippo Bistaffa*

Universitat Autònoma de Barcelona Bellaterra, Spain

Master's Degree in Modelling for Science and Engineering Sep 2018 - Jun 2019

Specialization: *Data Science*

Universitat Autònoma de Barcelona Bellaterra, Spain

Bachelor's Degree in Physics Sep 2013 - Jul 2018

RESEARCH AND WORK EXPERIENCE

Meteosim Barcelona, Spain

AI Engineer Sep 2023 - Today

I collaborate closely with leading research institutions to help create novel environmental models and transfer this technological knowledge to our company. My role involves devising innovative solutions that align with our commitment to sustainability and technological advancement.

One of my notable achievements includes the development of a Machine Learning-based model for particulate material forecasting. This model has been adopted as a crucial decision-making tool by several clients, significantly aiding them in reducing the environmental impact of their activities. By leveraging advanced data analytics and predictive modeling, I ensure our clients can make informed decisions to promote sustainable practices.

In addition to my technical contributions, I mentored three interns, guiding their professional development and fostering a collaborative learning environment. Currently, I oversee the work of a direct report, ensuring high-quality deliverables and supporting their growth within the team.

Universitat Autònoma de Barcelona Bellaterra, Spain

Research Assistant in Computational Social Sciences Sep 2022 - Jan 2023

I made significant contributions to the social research field by advancing the methodology for estimating the number of acquaintanceships of agents in social networks, which ultimately led to my work being published in an academic journal. Additionally, I actively engaged in regular group meetings, fostering collaboration and exchanging valuable insights with fellow researchers.

Advisor: Miranda J. Lubbers

Università degli studi di Verona Verona, Italy

Ph.D. Student Sep 2019 - Mar 2023

I made significant strides in developing a deep reinforcement learning model for generating collectives of agents in multi-agent environments, with wide-ranging applications in urban mobility, social environments, and scheduling warehouse pickups and deliveries. Through rigorous empirical analysis, my work yielded notable outcomes that were published in esteemed conferences and academic journals.

Advisor: Alessandro Farinelli and Filippo Bistaffa

IIIA-CSIC Bellaterra, Spain

Research assistant Jan 2019 - Jul 2019

I specialized in the development of generative deep learning models specifically designed for bouldering pattern generation. In my research, I tackled the challenging task of incorporating hard constraints into neural network architectures and their training procedures. By addressing this critical issue, I was able to create models that effectively generated bouldering patterns while adhering to specific constraints.

Advisor: Juan A. Rodríguez-Aguilar and Filippo Bistaffa

PUBLICATIONS

Adrià Fenoy, Jacopo Zagoli, Filippo Bistaffa and Alessandro Farinelli. 2024. Attention for the Allocation of Tasks in Multi-Agent Pickup and Delivery. *SAC 2024*.

Adrià Fenoy, Filippo Bistaffa and Alessandro Farinelli. 2024. An attention model for the formation of collectives in real-world domains. *Artificial Intelligence*.

Adrià Fenoy. 2023. Combining Optimization and Machine Learning for the Formation of Collectives. *PhD Thesis*.

Adrià Fenoy, Michał Bojanowski and Miranda J. Lubbers. 2023. Automated name selection for the network scale-up method. *SocArXiv*.

Adrià Fenoy, Filippo Bistaffa and Alessandro Farinelli. 2022. An attention model for the formation of collectives in real-world domains. *arXiv preprint*. arXiv:2205.00215.

SKILLS

General

- Problem-solving
- Creativity
- Perseverance
- Organization
- Adaptability
- Collaborative
- Communication

Languages

- Catalan
- Spanish
- English
- Italian

Programming

- Python

  Numpy, PyTorch, Scipy, Scikit-learn, Pandas
- C and C++
- R
- SQL
- LaTeX

Artificial Intelligence

- Machine Learning
- Deep Learning
- Neural Networks
- Statistics
- Mathematical modelling
- Optimization