

Giulia Marchiori Pietrosanti

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Education

Sant'Anna School of Advanced Studies

PH.D. STUDENT IN EMERGING DIGITAL TECHNOLOGIES

Pisa, Italy

Oct. 2023 - Present

- Focusing on the challenge of generalization within Reinforcement Learning
- Ranked **#1** in the international contest for admission to the PhD scholarship

University of Trieste

M.S. IN DATA SCIENCE & SCIENTIFIC COMPUTING

Trieste, Italy

Oct. 2020 - Mar. 2023

- **Final Grade:** 110/110 cum laude (First Class Honours)
- **Thesis:** 'On the Factors Affecting the Effectiveness of Controllable Simulated Robots: Can Human Controllers Predict AI-Based Controllers?'

Sapienza University

B.S. IN COMPUTER SCIENCE

Rome, Italy

Oct. 2016 - Dec. 2019

- **Final Grade:** 110/110 cum laude (First Class Honours)
- **Thesis:** 'On the complexity of linear resolution proofs'

Papers

- 2023 **G. Marchiori Pietrosanti**, G. Nadizar, F. Pigozzi, E. Medvet, "Human Control of Simulated Modular Soft Robots may Predict the Performance of Optimized AI-based Controllers", *IEEE Access* ↗

Experience

Oslo Metropolitan University

RESEARCH ASSISTANT - PYTHON PYTORCH

Oslo, Norway

Aug. 2022 - Sep. 2022

- Studied and implemented **Cellular Automata** to efficiently model an unconventional fluid-based computational system
- Employed **Evolutionary Computation** for the optimization of the Cellular Automata rules

University of Trieste

TEACHING ASSISTANT

Trieste, Italy

Oct. 2021 - Dec. 2021

- Held weekly recitations for 20+ 2nd-year BSc students in **Computability, Complexity, and Logic** (propositional logic, deductive systems, and first-order-logic)

Selected Projects

Lunar Lander Agent 📄

REINFORCEMENT LEARNING GROUP PROJECTS - PYTHON PYTORCH

Jul. 2022

- Developed RL agents to solve the Lunar Lander **OpenAIGym** environment
- Implemented different RL agents using **TD-methods** with discretization, **Sarsa**, and **DQN**

PONG game 📄

SOFTWARE DEVELOPMENT GROUP PROJECT - JAVA

Jan. 2022

- Developed the Pong game
- Project carried out using **Test Driven Development** approach, **GitHub** and **CircleCI**

BirdCLEF 📄

DEEP LEARNING GROUP PROJECT - PYTHON PYTORCH

Sep. 2021

- Developed **DL methods** to perform bird call identification
- Exploited three different solutions and compared the results
 - Implemented one **2D-CNN** and one **1D-CNN**
 - Trained **ResNet**

Honors

Program Attendee

THE CORNELL, MARYLAND, MAX PLANCK PRE-DOCTORAL RESEARCH SCHOOL ↗

Saarbrücken, Germany

Aug. 2023

- Selected as one of the ~ **90** students to attend the Cornell, Maryland, Max Planck pre-doctoral research school 2023

Scholarship recipient

SONY AI SCHOLARSHIP

Chania, Greece

Aug. 2022

- Obtained funding to attend the 4th International Summer School on AI & Games ↗

Scholarship recipient

ABK WOMEN IN GAMES SCHOLARSHIP ↗

Virtual attendance

Mar. 2022

- Selected as one of the **15** people to attend the 2022 Game Developers Conference (GDC) and mentorship sessions

Scholarship recipient

COLLEGIO UNIVERSITARIO LUCIANO FONDA ↗

Trieste, Italy

Oct. 2020 - Sep. 2022

- Accommodation and funding for the university tuition for merit-based selected students
- Chance to follow a program of extracurriculars and seminars