Giuseppe Paolo, Dr. | Research Scientist

Paris – France

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Experience

Huawei Research - Noah's Ark Lab   **Paris, France**
Senior AI Research Scientist   *2021 – Current*
Work on Model Based Reinforcement Learning, AutoML, LLMs, both on public research and internal projects. The work led to multiple scientific papers and the submission of a patent.
Supervising a PhD student.

IBM Research Zurich   **Zurich, Switzerland**
Research Intern   *Feb 2018 – Jul 2018*
Research on Computer Vision and Natural Language Processing for the development of a visual question answering system for IBM Watson (Image and text processing, LSTM, CNN,...).

RAM-Lab - CityU Honk Kong | HKUST   **Hong Kong**
Research Assistant   *Oct 2016 – Jan 2017*
Develop and implement a deep Reinforcement Learning algorithm controlling a tracked robot capable of climbing stairs. The final goal was to deploy the algorithm on wheelchairs to help impaired people overcome stairs and obstacles.

Joint Open Lab - Telecom Italia   **Turin, Italy**
Robotics Intern   *Mar 2015 – Jun 2015*
Design and development of telepresence robotic platform based on ROS.

Education

AI Lab - SoftBank Robotics Europe | ISIR – Sorbonne University   **Paris, France**
PhD   *2018 – 2021*
Research on Reinforcement Learning and Evolutionary Algorithms in Sparse rewards settings. It led to four scientific publications and the development and study of Quality-Diversity and Reinforcement Learning algorithms.

ETH Zurich   **Zurich, Switzerland**
Master of Science   *2015 – 2017*
Robotics, Systems and Control: Robotics, Machine Learning, Deep Learning, Reinforcement Learning, Computer Vision, Control, Game Theory.
Master Thesis: develop and implement an algorithm to help autonomous robots navigate in complex and crowded environments.

Politecnico di Torino   **Turin, Italy**
Bachelor Degree   *2012 – 2015*
Electronic Engineering

Extras

TELO Journal
Guest Editor   *2023*
Invited guest editor of the "Evolutionary Reinforcement Learning" Special Issue for the ACM TELO journal.

GECCO
Workshop Organizer   *2021 and 2022*
Co-organized the Evolutionary RL workshop at GECCO. The workshop sessions were some of the most attended among the workshops at conference.

Languages

- **Italian**: Mothertongue
- **French**: Advanced
- **English**: Advanced
- **Arabic**: Basic

Selected Publications

A Call for Embodied AI, *G. Paolo, J. Gonzalez-Billandon, B. Kégl*
ICML 2024 - Position Paper Track (ArXiV)

SAMformer: Unlocking the Potential of Transformers in Time Series Forecasting with Sharpness-Aware Minimization and Channel-Wise Attention, *R. Ilbert, A. Odonnat, V. Feofanov, A. Virmaux, G. Paolo, T. Palpanas, I. Redko*
ICML 2024 (ArXiV) - Oral Presentation

Learning in Sparse Rewards settings through Quality-Diversity algorithms, *G. Paolo*
PhD Thesis (ArXiV)

Discovering and Exploiting Sparse Rewards in a Learned Behavior Space, *G. Paolo, A. Coninx, A. Laflaquière, S. Doncieux*
Evolutionary Computation Journal MIT Press, 2024 (ArXiV)

Sparse Reward Exploration via Novelty Search and Emitters, *G. Paolo, A. Coninx, S. Doncieux, A. Laflaquière*
GECCO 2021 (ArXiV) - Nominated for best paper award in the CS track.

Open Source Projects

SERENE: Code of my paper on SparsE Reward Exploration via Novelty search and Emitters paper published at GECCO 2021. (Github)

Novelty Search Gym: A fairly modular and easily expandable Novelty Search implementation for gym-based environments (Github)

Awards

Future Star: Obtained at Huawei in 2024. Given to top 20% employees.

Quality Star: Obtained at Huawei in 2023 for the great results obtained on internal project

2012 Lab Star: Obtained at Huawei in 2023 for the great results obtained on internal project

Future Star: Obtained at Huawei in 2022. Given to top 20% employees.

Technical skills

Scientific Skills: Scientific Writing, Deep Learning, Machine Learning, Reinforcement Learning (Model-Free and Model-Based), Evolutionary algorithms, LLM, Representation Learning, AutoML

Libraries/Frameworks used: Python, Pytorch, Tensorflow, HuggingFace's Transformer, Pandas, Sklearn, Ray, Hydra, vLLM, RAMP, ROS, Gazebo, Linux, Latex, Git, Inkscape

Soft skills

Social: Team spirit and good socialization skills in new and multicultural situations, acquired through living in multiple different countries.

Organizational: Leadership and organization of a medium sized group of people obtained through the organization of events like the EvoRL workshops. Long term research project management, obtained during my PhD and the supervision of my PhD student.

Interests

- Photography
- Motorbiking

- Rock Climbing
- Rollerblading