Ariel Gjaci

PhD student in Robotics and Artificial Intelligence

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Social Networks —

in Linkedin Profile

○ Github Projects

Languages ———

🇮🇹 Italian ● ● ● ● ● ● ●
🇦🇱 Albanian ● ● ● ● ● ● ○
🇬🇧 English ● ● ● ● ● ○ ○

About Me ———

I am a 3rd PhD student in Robotics and Artificial Intelligence who completed a Master's degree in Robotics Engineering and a Bachelor's Degree in Biomedical Engineering. I am a technology enthusiast whose passion is to learn and apply modern AI techniques in autonomous systems. I thrive in both research activities and collaborative teamwork. During my leisure time, I enjoy going to the gym, playing chess, travelling, and capturing moments through photography with my reflex camera.

Working Experience

11/2021 – now	**PhD student in AI applied to robotics**	Università degli Studi di Genova - King's College London

I do research related to culture-aware AI for social robots. During the 1st year of my PhD, I analyzed different datasets using RF and SVM models to acknowledge the influence of cultural factors on data. During the 2nd year, I implemented a semantic-based method to identify Symbolic and Deictic gestures in utterances using Semantic-Similarity Cross-Encoder models. During the last year, I will develop a culture-aware generative model to generate culture-aware co-speech gestures. The methods developed during the 2nd and the 3rd year will be joined together in a hybrid approach.

05/2021 – 10/2021	**Junior Software Engineer Consultant**	Akka Technologies

Worked in a team project aiming at designing and developing software to manage aircraft panels using Python. My main focus was on the design and the implementation of the backend.

Study

2018 – 2021	**Master's Degree in Robotics Engineering**	Università degli Studi di Genova

Worked on many projects concerning robotic applications. Learned how to use ROS and Linux, expanded my programming knowledge, and studied subjects such as Machine Learning, Embedded Systems, Computer Vision, Multi-variable and Non-Linear control, Mechanical Design, etc. Graduated defending the thesis: Culture-Aware Co-Speech Gestures Using Generative Adversarial Networks.

2014 – 2018	**Bachelor Degree in Biomedical Engineering**	Università degli Studi di Genova

Learned basic engineering subjects such as mathematics, statistics, physics, signal processing, electronics, programming (C, C++, Matlab), etc. Graduated defending the thesis: Characterization of the Activity Evoked by Stimuli in Hippocampal Neuronal Networks.

2009 – 2014	**High School Diploma**	ITIS Galileo Ferraris

Graduated as IT Engineering Technician and learned the basics of some programming languages: C++, PHP, HTML, Assembler, SQL.

Skills

Programming Skills

- Python ● ● ● ● ● ● ○
- C++ ● ● ● ● ● ○ ○
- C ● ● ● ● ● ○ ○
- R ● ● ● ● ○ ○ ○
- Matlab/Simulink ● ● ● ● ○ ○ ○

System Level Programming Skills

- Linux ● ● ● ● ● ○ ○
- ROS ● ● ● ● ● ○ ○
- Windows ● ● ● ● ● ○ ○

Mechanical design skills

- Creo ● ● ● ○ ○ ○ ○

Embedded Systems and Electronics skills

- dsPICDEM 2 ● ● ● ● ● ● ○
- Raspberry Pi ● ● ● ● ● ○ ○
- Arduino ● ● ● ● ● ○ ○

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Certifications

2023 1st **Doctoral Summer School on Robotics and Intelligent Machines**
Scuola Superiore Sant'Anna
Learned and revised different topics related to robotics, i.e., ROS programming, sensor data acquisition with LabView, CAD design with PTC Creo, and Computer Vision algorithms. Worked on a team project involving the control of a 6-DOF manipulator to move a dice in the right position.

2023   **Topics in Modern Machine Learning (ModML)**
MaLGa
Attended lectures on modern Machine Learning topics: Statistical Learning Theory, Optimization, Sketching, Implicit Regularization, Reinforcement Learning, Machine Learning for Inverse Problems, Optimal Transport, Fairness, Learning in interpolation regimes, and Sampling as first-order optimization over a space of measures. Completed the exam involving the completion of 3 Colab Notebooks on 3 different topics.

2022   **Natural Language Processing with Classification and Vector Spaces**
Coursera
Learned some basic concepts of Natural Language Processing.

2021   **Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization**
Coursera
Learned some basic optimization concepts of Neural Networks.

Pubblications

2024   **Labeling Sentences with Symbolic and Deictic Gestures via Semantic Similarity**
Gjaci Ariel, Recchiuto Carmine Tommaso, and Sgorbissa Antonio
Submitted to 2024 IEEE International Conference on Robotics and Automation (ICRA 2024)

2022   **Towards culture-aware co-speech gestures for social robots**
Gjaci Ariel, Recchiuto Carmine Tommaso, and Sgorbissa Antonio
International Journal of Social Robotics

2022   **Culture Awareness in Intelligent Systems**
Gjaci Ariel, Oneto Luca, Recchiuto Carmine Tommaso, and Sgorbissa Antonio
Workshop on Artificial Intelligence and Robotics – AIRO 2022

2021   **A GAN-based Approach for Generating Culture-Aware Co-Speech Gestures**
Gjaci Ariel, Recchiuto Carmine Tommaso, and Sgorbissa Antonio
Workshop on Artificial Intelligence and Robotics – AIRO 2021