aigiovancombo
giovancombo

CONTACTS

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Firenze (FI), Italy

ABOUT ME

I'm a Master's student deeply passionate about AI, with a particular focus on Reinforcement Learning, Computer Vision, Neuromorphic Vision and Natural Language Processing.
Throughout my academic journey, I've worked on various projects in these fields that fueled my curiosity for their potential applications.

WORK INTERESTS

What excites me most is the potential to apply my learned skills in areas that can make a real difference in society. I'm particularly drawn to the idea of using AI for sustainable development and social impact, addressing issues like food security, and social inequalities. Also, I'm passionate about advancing digital safety and integrity, combating misinformation, online fraud, and cybersecurity threats.
Yet, I'm excited by the broad potential of AI across various sectors and am always eager to explore new applications: my goal is bringing my enthusiasm and skills to projects and visions that can have a positive and tangible impact on the real world.

PERSONAL

Gender: male (he/him)
Birth: dec 3rd, 1996
Nationality: italian

OTHER INTERESTS

Documentary/Sports Photographer
Drone Operator
Film Director and Video Editor
Hiker and Runner

GIOVANNI COLOMBO

MSC. STUDENT IN ARTIFICIAL INTELLIGENCE
UNIVERSITY OF FLORENCE, ITALY

DEGREES

Telecommunications Engineering 2015-2021
BSc. - University of Brescia (UniBS), Italy
Graduated: Feb 17th, 2021 (92/110)

Artificial Intelligence 2021-
MSc. - University of Florence (UniFI), Italy
Expected graduation in November 2024

PROJECTS

COVID-19 Detection through vocal analysis *(bachelor's thesis)*
Conducted during the pandemic, the thesis illustrates a rudimental, yet rapid and promising method for COVID-19 detection using a simple device from the comfort of one's home, through audio analysis of patients' voices. Different Machine Learning algorithms were compared and evaluated. (*MatLab, Classification Learner App, Python*)

Protein Secondary Structure Prediction with Transformers
I developed a Transformer for predicting the Secondary Structure of proteins from their Primary Structure, on the CullPDB dataset. Different features and training techniques were employed and tested. (*Python, PyTorch, Weights&Biases*)

Autonomous Car Platooning with Reinforcement Learning
I developed a simple automotive environment and implemented a Deep Q-Learning algorithm to gain practical experience in applied DRL. (*Python, Pytorch*)

CRATE: studying White-Box Transformers
Reproduction and validation of results achieved by a novel Transformer-based architecture characterized by its use of exclusively mathematically interpretable operations. Performances were evaluated on Image Classification, Image Completion via MAE, Self-Supervised Learning, and Pre-Training of Language Models. (*Python, Pytorch, Weights&Biases*)

Parallel Programming with OpenMP
I developed two simple programs to understand the basic concepts behind Parallel Computing using the OpenMP framework. Measurements about speedup, evaluation of throughput and reports were made on a Random Maze Solver and a K-Means Clustering algorithm. (*C++, OpenMP*)

Drone Tracking with Event Cameras *(master's thesis)*
The thesis investigates the cutting-edge field of Neuromorphic Vision, focusing on the development of a robust model for Drone Recognition and Tracking. Potential applications extend to critical security domains, such as surveillance and monitoring of sensitive areas. (*Python, PyTorch, Weights&Biases*)

LANGUAGES

Italian	C2	*mother tongue*
English	C1	*advanced*
Spanish	A2	*elementary*

SKILLS

Problem Solving
Critical Thinking
Creativity
Teamwork
Team Coordination
Emotional Intelligence
Work Autonomy
Flexibility
Attention to Detail
Continuous Learning