aigiovancombo
giovancombo

CONTACTS

+39 366 4806282
giovanni.colombo@edu.unifi.it
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 Nov 2024

PROJECTS

COVID-19 Detection through vocal analysis *(bachelor's thesis)*
Conducted during the pandemic, the thesis illustrates a rudimentary, 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. Various Machine Learning algorithms were compared and evaluated. (*MATLAB, Classification Learner App*)

Protein Secondary Structure Prediction with Transformers
Development of a Transformer model for predicting protein Secondary Structure from Primary Structure, utilizing the CullPDB dataset. Relative Embeddings and other features and training techniques were employed and evaluated. (*Python, PyTorch, Weights&Biases*)

Autonomous Car Platooning with Reinforcement Learning
Development of a simplified automotive environment and implementation of a Deep Q-Learning algorithm to gain practical experience in applied Deep Reinforcement Learning. (*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
Development of two programs to explore fundamental concepts of Parallel Computing using the OpenMP framework. A Random Maze Solver and a K-Means Clustering algorithm were implemented to measure speedup and evaluate throughput. (*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	Emotional Intelligence
Critical Thinking	Work Autonomy
Creativity	Flexibility
Teamwork	Attention to Detail
Team Coordination	Continuous Learning