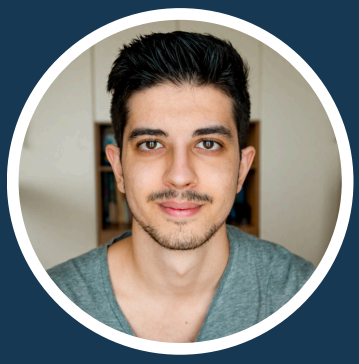

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CONTACTS

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Firenze, Italy

ABOUT ME

I'm an engineer deeply passionate about AI, with a particular focus on Computer Vision, Neuromorphic Vision, and Reinforcement Learning.
Throughout my academic journey, I've worked on various projects in these fields that fueled my curiosity for their potential applications in real scenarios.

WORK INTERESTS

What excites me most is the potential to apply my learned skills as an ***AI/ML Engineer*** or ***Data Scientist*** in areas that can make a real difference in society. I'm particularly drawn to using AI for impactful contributions across fields with strong social, ethical, and human significance such as biomedicine, climate research, humanitarian aid, and cybersecurity. While these represent my core interests, I'm naturally curious to explore other sectors that can stimulate my cultural and professional growth. I'm passionate about advancing projects that create positive impact while remaining open to diverse applications of AI technology.
I'm looking forward to bringing my enthusiasm and skills to roles that align with my ethical values and contribute to solve problems of our times.

PERSONAL

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

OTHER INTERESTS

Documentary/Sports Photographer
Drone Operator
Content Creator and Video Editor
Hiker and Runner

GIOVANNI COLOMBO

MSC 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 2021-2025
MSc. - University of Florence (UniFI), Italy
Graduated: Apr 8th, 2025 (110/110)

PUBLICATIONS

Magrini, G., Becattini, F., **Colombo, G.**, Pala, P. (2025) "*EV-Flying: an Event-based Dataset for In-The-Wild Recognition of Flying Objects.*" https://doi.org/10.48550/arXiv.2506.04048, CVPR 2025 Workshop on Event-based Vision.

RECENT PROJECTS

Flying Object Detection with Event Cameras *(master's thesis)*
The thesis investigates the cutting-edge field of Neuromorphic Vision, focusing on the development of a model for classifying objects such as drones and flying animals. Potential applications extend to critical security domains, such as surveillance and monitoring of sensitive areas. Paper accepted to the CVPR 2025 Workshop on Event-based Vision. (*Python, PyTorch, MetaVision SDK*)

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 Platoon Control 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*)

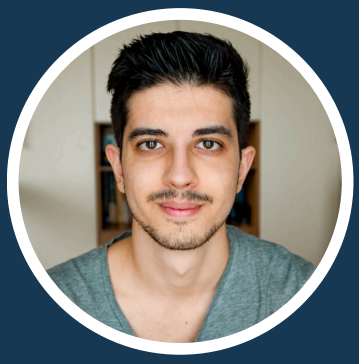
Structured Information Extraction from Text with OpenAI API
Development of a system to extract structured JSON data from text using LLMs from OpenAI and the Responses/Chat Completions APIs. Gained experience in Prompt Engineering and structured output implementation using Pydantic. *(Python, PyTorch, Pydantic, OpenAI API)*

LANGUAGES

Italian C2 *mother tongue*
English C1 *IELTS certified*

SKILLS

Problem Solving
Critical Thinking
Creativity
Teamwork
Team Coordination
Emotional Intelligence
Work Autonomy
Flexibility
Detail Oriented
Proactivity



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RECENT PROJECTS

Parallel Computing with OpenMP and CUDA
Development of two programs to explore fundamental concepts of Parallel Computing, such as speedup and efficiency, using the OpenMP and CUDA frameworks. A simplified Image Renderer and a Histogram Equalizer were implemented. (*C++, OpenMP, CUDA*)

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. A step towards AGI. Performances evaluated on Image Classification, Image Completion via MAE, Self-Supervised Learning, and Pre-Training of Language Models. (*Python, PyTorch*)