

Dario Cioni

AI RESEARCHER · MACHINE LEARNING ENGINEER

🏠 ciodar.github.io | 📧 ciodar | 🌐 dario-cioni

Research & Professional Experience

RESEARCH

Queen Mary University of London - Centre for Multimodal AI

London, UK

SUPERVISORS: PROF. IOANNIS PATRAS, PROF. LORENZO SEIDENARI

10/2023 - 02/2024

- **Thesis:** “Forensic Techniques for Synthetic Image Detection and Attribution”
- **Publication** “Are CLIP Features all you need for Universal Synthetic Image Origin Attribution?” (Best Workshop Paper Award)
Employed general, pre-trained features extracted from Vision Foundation Models (CLIP, DINOv2) for Open Set Synthetic Image Attribution, obtaining state-of-the-art attribution performance (98% Acc., 81% OSCR) on Diffusion-generated images.
- **Roles:** Project ideation, literature review, development and training of all experiments, paper writing

University of Florence - Media Integration and Communication Center

Florence, Italy

SUPERVISOR: PROF. ALBERTO DEL BIMBO

02/2023 - 07/2023

- **Publication:** “Diffusion Based Augmentation for Captioning and Retrieval in Cultural Heritage” (ICCVW 2023)
Devised a Diffusion-based augmentation pipeline with multimodal conditioning to augment Cultural Heritage datasets for downstream Vision-Language tasks, improving performance on Image Captioning and Multimodal retrieval
- **Roles:** Development and training of all experiments, paper writing

University of Florence

Florence, Italy

SUPERVISOR: PROF. ANDREW DAVID BAGDANOV

09/2020 - 04/2021

- **Thesis:** “Convolutional Neural Networks for Object counting in thermal imagery”
Employed features extracted from a domain adapted YOLOv3 network to perform privacy-preserving Crowd Counting, obtaining greater performance (-2 MSE) than raw detections and better generalizability to other thermal domains (-4.2 MSE)
- **Roles:** Development of all experiments and training, writing

PROFESSIONAL

PwC Italy

Milan, Italy

SENIOR AI ENGINEER @ AI CENTER OF EXCELLENCE

07/2024 - Present

- Led a small team for the development of a Video Generation suite using open-source DiT based models for Video and Audio generation. Optimized inference with post-training quantization and step distillation
- Co-designed and delivered AI teaching modules through joint programs with PwC Italy and partner universities (e.g., University of Pavia); developed curricula and hands-on lab sessions for both company executives and graduate students.
- Developed and improved Retrieval-Augmented Generation pipelines by optimizing efficiency, retrieval and generation performance, developed an internal LLM evaluation pipeline for RAG.

Hermes Trade

Florence, Italy

PRODUCT OWNER, SOFTWARE DEVELOPER

08/2015 - 09/2021

- Student worker during Bachelor's studies
- Designed and led the development of an ERP/CRM application as Backend Developer and Data Engineer, managing all phases of software development lifecycle.

Education

University of Florence

Florence, Italy

MASTER'S IN ARTIFICIAL INTELLIGENCE

09/2021 - 04/2024

- 110/110 with Honours (First Class Honours)
- Supervisors: Prof. Lorenzo Seidenari, Prof. Andrew David Bagdanov
- Co-Supervisors: Prof. Ioannis Patras, Dr. Christos Tzelepis

University of Florence

Florence, Italy

BACHELOR IN COMPUTER SCIENCE ENGINEERING

09/2015 - 04/2021

- Supervisor: Prof. Andrew David Bagdanov

Publications

Cioni, D., Tzelepis, Christos, Seidenari, Lorenzo, and Patras, Ioannis (2024). "Are CLIP features all you need for universal Synthetic Image Origin Attribution?". **[Best Workshop Paper Award]** Proceedings of the European Conference on Computer Vision Workshops (ECCVW 2024)

Cioni, D., Berlincioni, L, Becattini, F., Del Bimbo, A. "Diffusion Based Augmentation for Captioning and Retrieval in Cultural Heritage". Proceedings of the IEEE/CVF International Conference on Computer Vision Workshops (pp. 1707-1716). (ICCVW 2023)

Awards, Fellowships, & Grants

2024 **Best Workshop Paper Award**, TWYN @ ECCV 2024

2023-2024 **AI4Media Junior Fellow**, AI4Media

2021-2023 **Regional Scholarship**, ARDSU Toscana

Presentations & Teaching

Best paper award talk - "Are CLIP features all you need for universal Synthetic Image Origin Attribution?", Trust What You learn (TWYN) workshop @ ECCV2024, Milan, Italy, 2024.

Guest Lecture – "Introduction to Artificial Intelligence", Digital Methods course, University of Pavia, School of Economics (Italy), 2025.

Course Teacher – "AI Growth Path" (1-week internal training program for middle and top management), PwC Italy, 2025.

Other Projects

Deep Compression

ciodar/deep-compression

PAPER REPLICATION

Replicated from scratch the paper "Deep compression: Compressing deep neural networks with pruning, trained quantization and huffman coding" (Han et al., 2015). Developed and trained the 3-step compression pipeline on an ImageNet subset and MNIST dataset.

Deep Learning Applications

ciodar/deep-labs

PROJECT COLLECTION

Collection of paper replications of Computer Vision, NLP and Adversarial Machine Learning fields developed during Deep Learning Application course.