# FABIO QUATTRINI

PhD Student @ AlmageLab, Modena (MO), Italy

# RESEARCH INTERESTS

PhD student at AImageLab, supervised by Prof. Rita Cucchiara and Dr. Silvia Cascianelli and working on *Computer Vision* for Cultural and Historical Multimodal Sources. Main interest in Vision-Language models, Generative and Document AI.

### **EDUCATION**

Ph.D. student in Information and Communication Technologies (ICT)	01/2023 - 03/2026
AImageLab, University of Modena and Reggio Emilia	Modena, Italy
Supervisors: Prof. Rita Cucchiara, Dr. Silvia Cascianelli.	
Master's degree in Computer Engineering   Artificial Intelligence Engineering	10/2019 - 12/2022
University of Modena and Reggio Emilia	Modena, Italy
Grade: 110/110 cum laude. Thesis: Introducing Vision Transformers in DDPMs. [paper]	
Bachelor's degree in Computer Engineering	09/2016 - 10/2019
University of Modena and Reggio Emilia	Modena, Italy

## WORK EXPERIENCE

## **Applied Scientist Intern**

September 2024 - March 2025

CVNA, Amazon

Berlin, Germany

- Research on Foundation GenAI models to improve Visual Understanding and Generation in Images with Text.
- Managed project planning from ideation to completion. Supervised data collection and annotation team.

Research Intern November 2021 - December 2022

AlmageLab, University of Modena and Reggio Emilia

Modena, Italy

• Built NLP and novel Generative Vision Transformers. Trained Denoising Diffusion Probabilistic Models (DDPMs) with distributed computing, achieving competitive Fréchet Inception Distance (FID) scores.

## **Technical Assistant Intern**

Summers 2014 - 2015

Corepixx s.r.l.

Modena, Italy

Configured client systems, built product demos and interactive technology solutions for digital signage.

#### SELECTED PUBLICATIONS

**Zero-Shot Styled Text Image Generation, but Make It Autoregressive**. Vittorio Pippi\*, *Fabio Quattrini*\*, Silvia Cascianelli, Alessio Tonioni, Rita Cucchiara. *CVPR* 2024. [paper] [code]

Alfie: Democratising RGBA Image Generation With No \$\$\$. Fabio Quattrini, Vittorio Pippi, Silvia Cascianelli, Rita Cucchiara. "AI for Visual Arts Workshop" ECCV 2024 (Oral Spotlight, Top-4). [paper] [code]

Merging and Splitting Diffusion Paths for Semantically Coherent Panoramas. *Fabio Quattrini*, Vittorio Pippi, Silvia Cascianelli, Rita Cucchiara. *ECCV* 2024. [paper] [code]

µgat: Improving Single-Page Document Parsing by Providing Multi-Page Context. Fabio Quattrini\*, Carmine Zaccagnino\*, Silvia Cascianelli, Rita Cucchiara. "AI for Digital Humanities Workshop" ECCV 2024. [paper] [code]

**Binarizing Documents by Leveraging both Space and Frequency**. *Fabio Quattrini*, Vittorio Pippi, Silvia Cascianelli, Rita Cucchiara. *ICDAR* 2024 (*Oral*). [paper] [code]

**HWD:** A Novel Evaluation Score for Styled Handwritten Text Generation. Vittorio Pippi, *Fabio Quattrini*, Silvia Cascianelli, Rita Cucchiara. *BMVC* 2023. [paper] [code]

Volumetric Fast Fourier Convolution for Detecting Ink on the Carbonized Herculaneum Papyri. Fabio Quattrini, Vittorio Pippi, Silvia Cascianelli, Rita Cucchiara. "4th ICCV Workshop on e-Heritage", ICCV 2023. [paper] [code] Segmentation-based Low-Resource Text Line Recognition. Carlos Garrido Munoz, Fabio Quattrini, Carmine Zaccagnino, Silvia Cascianelli, Costanza Bianchi, Jorge Calvo-Zaragoza, Rita Cucchiara. Under Review.

## **CERTIFICATIONS**

International Computer Vision Summer School - ICVSS2024	07/2024
ELLIS Summer School   Large-Scale AI for Research and Industry	09/2023
Best project award. ClearView: Camera Pose Refinement for Improved Radiance Fields	Modena, Italy
International Summer School on Machine Vision - VISMAC23	09/2023
Kaggle Vesuvius Challenge - Ink Detection   Silver Medal	06/2023

#### KNOWLEDGE AND COMPUTER SKILLS

**Programming**: Python (Proficiency), Java, C, SQL | PyTorch, NumPy, OpenCV, Pandas, PyRobot, Scikit, Huggingface **Miscellaneus**: AWS (EC2, SageMaker, Rekognition), Slurm, WandB, English (Fluent)