

Andrea Gemelli

Ph.D. - AI RESEARCH SCIENTIST

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Professional Summary

AI Research Scientist holding a **PhD in Document AI & Natural Language Processing** with 5+ years of experience and 10+ publications in top-tier venues (ECCV, ICASSP). Proficient in Python and PyTorch, currently focused on advancing research in **Vision and Language Models (VLMs)**. Proven track record of scaling ML operations and delivering business impact through innovative AI solutions. Winner (3rd place) of **Paris AI Hackathon** by {Tech: Paris} among 120 applicants and 20 teams.

Professional Experience

LetXbe

Paris, Fr

AI Research Scientist

2023 - Ongoing

- **Product Contributions:** Trained proprietary *document information extraction* VLM and deployed *AI chatbot* - matching commercial API performance preserving data privacy.
- **Model Training:** Fine-tuned and benchmarked open-source VLMs (up to 32B) on proprietary DocVQA datasets with thousands of documents.
- **MLOps:** Built end-to-end ML pipeline automating preprocessing and data quality, training, evaluation and deployment.
- **Infrastructure:** Managed AWS (SageMaker) and Scaleway instances for an 8-person team.
- **Research Leadership:** Coordinated R&D roadmap, supervised 2 interns ended in published papers, organized internal seminars.

Key Achievements

- Contributed to 3x business pipeline growth through innovative VLM solutions in production.
- Improved production systems precision from 85% to 95% through MLOps pipelines with monitoring and data quality checks.
- 5k+ downloads across open sourced models (Qwen and Mistral fine-tuned for DocVQA) and dataset (BoundingDocs) on **Hugging Face**

Education

AI Lab - University of Florence

Florence, It & Barcelona, Sp

Ph.D. in Document AI

2020 - 2023

- Awarded **Doctor Europaeus** title on Feb 2024, defending a thesis on Document AI and Graph Neural Networks.
- Published **8 peer-reviewed papers** to top-tier venues and journal (ECCV, oral at ICASP, PRL and IJDAR journals).
- Visiting Researcher at **Computer Vision Center** for a year, which collaboration led to publication at ECCV.
- **Teaching:** led university programming courses as teaching assistant, delivered AI lectures, and supervised BSc/MSc thesis projects.
- Summer Schools: **Cambridge ELLIS** (50% acceptance) and **International Computer Vision Summer School (ICVSS)** (30% acceptance)

Selected Publications (100+ citations, complete list on [Google Scholar](#))

- **ICASSP** (Conference, Oral), 2024: "Structure Matters: Analyzing Videos Via Graph Neural Networks for Social Media Platform Attribution".
- **PRL** (Journal), 2023: "Automatic generation of scientific papers for data augmentation in document layout analysis".
- **ECCV** (TiE Workshop, Poster), 2022: "Doc2graph: a task agnostic document understanding framework based on graph neural networks".

Open Source Contributions

- 200+ stars on GitHub open source projects, e.g. **Doc2Graph**, a framework for DocAI
- **AI/Tech blog** documenting research insights, implementation guides, and machine learning best practices.
- Active reviewer for IJDAR journal and ICDAR conference

University of Florence

Florence, It

M.Sc. Computer Science and Engineering

Graduated in 2020

- **Graduated with full marks** (110/110). Thesis written during an **Erasmus+ Traineeship** at **L3i lab of La Rochelle University**.
- Studied during an **Erasmus+ Study** at **Ghent University**. Held Machine Learning, Software Hacking and Parallel Computing courses.

Tools & Languages

Machine Learning & Dev

PyTorch, Transformers, vLLM, DGL, Detectron2, FastAPI, Gradio

Data & MLOps

Pandas, Scikit-Learn, Jupyter, Tensorboard, W&B, Docker, Git

Cloud & Infrastructure

AWS (SageMaker, S3, Lambda), Scaleway

Programming

Python (Expert), C++, TypeScript

Languages

Italian (Native), English (C1), French (B1), Spanish (B1)