ANDREA GEMELLI

Ph.D. Candidate @ DocAI Lab, University of Florence

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WORK EXPERIENCE

Ph.D. Candidate

University of Florence & Computer Vision Center

November 2020 - ongoing | Florence, Italy - Barcelona, Spain

My Ph.D. focuses on applying **Graph Neural Networks** to **Document Understanding** and **Natural Language Processing** related tasks.

- I won the 2020 **Smart Computing scholarship** to pursue my Ph.D. at the University of Florence.
- I am currently a **visiting researcher** at the **Computer Vision Center**. Together with other expert colleagues, we published our joint work at the **Text in Everything workshop (ECCV)**.
- I participated to two international conferences, ECCV and ICPR and I followed several Machine Learning courses.
- I have supervised four bachelor and master student thesis, eventually ended up in publications.

Bachelor Course Teaching

Polo Universitario Aretino

March 2022 - June 2022 | Arezzo, Italy

I held a bachelor course titled **Introduzione di Sistemi Informativi**, for the University of Arezzo and Politecnico di Milano.

- I taught for four months through weekly lessons and supervised three exams.
- I introduced to arguments such as *"Distributed architectures and Cloud Computing"*, and *"Data Warehouse and Data Mining"*.

Data Scientist Internship

Alias2k

Apr 2018 - Sep 2018 | Montevarchi, Italy

- I applied **statistical machine learning techniques** to company's developed tools.
- The final work was personally presented to the CEO of Avesco Rent company, Lausanne.

ADDITIONAL EXPERIENCE

Summer Schools

Luleå University of Technology & Cambridge University

2021 - 2022 | Luleå, Sweden - Cambridge, UK

- In July 2022, I attended the **Cambridge ELLIS Machine Learning Summer School** and presented a poster about my Ph.D. ongoing work, selected among 130 participants out of 260 applicants.
- in August 2021, I took part to the **4th IAPR Summer School on Document Analysis**, a premier annual summer school focused on recent developments in document analysis. I arrived 2^{nd} at the organized hackathon.

Erasmus+ Programs

Universiteit Gent & La Rochelle Université

2018 - 2020 | Ghent, Belgium - La Rochelle, France

Erasmus programs made me growth both technically and personally, helping me to broaden my view of my studies and the world outside.

- From January to April 2020, I wrote my master thesis during my stay at **L3i lab of La Rochelle University**, taking part to a traineeship international program.
- From September 2018 to February 2019, I had the opportunity to study at the **Ghent University**, among one of the best Universities in Europe. I took four courses, **Machine Learning**, **Software Hacking and Protection**, **Parallel and Distributed Software Systems** and **IoT**.

PUBLICATIONS

Conference Proceedings

- Bimbo, D. D., Gemelli, A., & Marinai, S. (2022). **Data augmentation on graphs for table type classification**. In *lapr joint international workshops on statistical techniques in pattern recognition (spr) and structural and syntactic pattern recognition (sspr), august 26-27*, Montréal Québec: **S+SSPR22**.
- Gemelli, A., Biswas, S., Civitelli, E., Llados, J., & Marinai, S. (2022). **Doc2Graph: a Task Agnostic Document Understanding Framework based on Graph Neural Networks**. In *Text in everything workshop (tie) @ eccv 2022, august 21-25*, Tel Aviv, Israel: **ECCV22**.
- Gemelli, A., Vivoli, E., & Marinai, S. (2022). **Graph Neural Networks and Representation Embedding for Table Extraction in PDF Documents**. In *26th international conference on pattern recognition, (icrp 2022), august 21-25*, Montréal, Québec: **ICPR22**.

Journals

- Pisaneschi, L., Gemelli, A., & Marinai, S. (2022). **Automatic generation of scientific papers for data augmentation in document layout analysis**. *Under Review*.

EDUCATION

Master in Computer Science

University of Florence

Sep 2017 – Sep 2020

Thesis: *"Structural layout analysis of document images using Graph Convolutional Neural Networks"*
Grade: 110/110

Bachelor in Computer Science

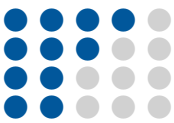
University of Florence

Sep 2014 – Sep 2017

Thesis: *"Exploiting Convolutional Neural Networks for the detection of walls in floorplan images"*
Grade: 102/110

SKILLS

Programming Languages



Python
Typescript
Java
C++

Frameworks

Pytorch
DGL
Spacy
Angular

LANGUAGES

Italian
English
Spanish