

Julien Gaubil

Machine Learning & Computer Vision Student – École Normale Supérieure Paris-Saclay

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[Webpage](#)

[Github](#)

[LinkedIn](#)

Research Experience

Computer Vision Research Intern

May – Sep. 2023

Princeton University - Princeton Vision & Learning Lab | Advisor: Pr. J. Deng

Princeton, NJ, USA

- Working on 3D Vision, Scene representation.

Computer Vision Research Intern

Apr. – Sep. 2022

École des Ponts ParisTech (ENPC) - Imagine Team | Advisor: Pr. M. Aubry

Paris Area, France

- Worked on **Weakly-supervised Deep Learning** methods for analysis of images of text lines.
- Integrated transcription as a weak supervision in the existing unsupervised pipeline using the CTC Loss and designing a dynamic algorithm for learned prototypes selection.
- Improved modelling of rare characters: Character Error Rate improved from 11.5% to 0.9% on the dataset Google1000.
- Contributed to the redaction of a paper for the project, listed as co-author [1].

Computer Vision Research Intern

May. – Aug. 2021

National Centre for Scientific Research (CNRS) | Advisor: Pr. E. Dellandrea

Lyon Area, France

- Worked on Real-time **Visual Scene Understanding** for Robotics.
- Conducted literature review over real-time Object Detection and 6D pose estimation.
- Delivered a working baseline for 6D Pose Estimation, fixing the codebase of FS-Net.

Education

École Normale Supérieure Paris-Saclay

2022 – 2023

MSc Mathematics, Vision & Learning (MVA)

Paris Area, France

- French leading research master in **Machine Learning and Computer Vision**.
- Relevant courses: Object recognition & Computer Vision, Deep Learning, 3D Computer Vision, Point clouds & 3D modelling, Generative Models for Image.

École Centrale de Lyon

2019 – 2022

Diplôme d'ingénieur - Bachelor and Master of Science in Engineering

Lyon Area, France

- Ranked among the top French "Grande Écoles", 1.5 year of core-curriculum then 1.5 years of elective courses. Rank in elective courses: **top 10%**, merit: **Excellent**.
- Majored in **Applied Mathematics**. Relevant courses: Advanced Machine Learning, C++, Inverse problems & Imaging, Probabilities & Stochastic Processes, Mathematics for Images.
- Double curriculums in Mathematics with Lyon 1 University: BSc (20 – 21'), MSc (21 – 22').

French Preparatory classes

2017 – 2019

Undergraduate program in Mathematics and Computer Science

Paris Area, France

- Intensive program to prepare for nationwide competitive examination for the top French 'Grandes Écoles'. Majored in Mathematics. **GPA: 120/120**.

Publication

- [1] Yannis Siglidis, Nicolas Gonthier, **Julien Gaubil**, Tom Monnier, Mathieu Aubry, "*The Learnable Typewriter: A Generative Approach to Text Line Analysis*", arXiv 2023.

Projects

More details on my [Webpage](#).

Sparse variable selection in Lasso using Knockoffs

Jan. 2022 – Mar. 2021

Research project advised by Pr. Y. de Castro (Institut Camille Jordan) during last year at Centrale Lyon.

Research project on Incremental Deep Learning

Sep. 2020 – Apr. 2021

Research project advised by Pr. E. Dellandrea (CNRS LIRIS) during second year at Centrale Lyon.

Course projects

Sep. 2022 – Apr. 2023

Relevant projects completed as part of course evaluations during MSc MVA.

- Neural Point-based rendering and View Synthesis (Point Cloud and 3D Modelling course)
- Self-Supervised Learning of Visual Representations (Computer Vision course)
- Weakly-supervised analysis of text-line images (Deep Learning course)
- Denoising Diffusion Implicit Models (Generative Models for images)

Miscellaneous

Distinctions / Awards:

- IDEX scholarship for international mobility awarded by University Paris-Saclay based on excellence in academic results (2023).
- Engineering diploma from École Centrale de Lyon with "Félicitations du jury", highest distinction based on academic results (2022).

Computer Science: Python (proficient, experience with PyTorch, NumPy, Pandas...), C++, R, Matlab, SQL, GIT.

Languages: English (proficient, C2) TOEFL 105/120, French (Native), Spanish (intermediate).

Interests: Reading (Novel, Sci-Fi), Mathematics, Sports (Football, Handball).