

Yassine Machta

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Education

- **ENSAE Paris** 2021–2025
Engineering Curriculum: Data Science, Statistics and Learning. GPA: 3.8
- **Institut Polytechnique de Paris** 2024–2025
Master 2 Data Science
- **Lycée Pierre de Fermat** 2019-2021
*Prepa MPSI/MP**

Work Experience

- **Research Intern** Inria - [ARTICULAB](#), Paris
May 2025 – Nov 2025 Supervised by: [Cassell, J](#) and [Le Chapelier, M](#)
 - Developed a real-time embedding/rule-based gesture retrieval baseline to enhance the believability of the Son of Sara Embodied Conversational Agent during user interactions.
 - Moving toward learned, context-sensitive gesture generation.
- **Research Intern** Sony R&D, Stuttgart
Jan 2024 – Jun 2024 Supervised by: [Facijs, Z](#) and [Franceschi, R](#) [Letter of Recommendation](#)
 - Conducted experiments to evaluate the effect of uncontrolled environments on 3D reconstruction quality.
 - Developed an automated pipeline for image preprocessing and 3D reconstruction.
 - Created a web app to streamline mesh alignment and quality evaluation for engineering teams.
- **Research Intern** Inria - [SIMBIOTX](#), Saclay
May 2023 – Nov 2023 Supervised by: [Ali, O](#) and [Vignon-Clementel, I.](#)
 - Implemented topology-preserving losses for accurate 3D vessel segmentation.
 - Performed statistical analysis of vessel tree morphometry and trained models on perfusion volumes.
 - Published to MICCAI 2024 (ADSMI workshop), presented at poster session. See publications section for more details ([Code link](#)).
- **Data Science Intern** Cour des Comptes, Paris
Jun 2022 – Sep 2022 Supervised by: [Grignon, P](#)
 - Conducted a data analysis project in R to create an overview of the French Airport Network.
 - Utilized descriptive statistics and cartography for data visualization.

Skills

- **Programming Languages:** Python (PyTorch, Scikit-learn/image, Selenium, pandas, Numpy, matplotlib), Git, Slurm, Kubernetes, ArgoCD, Docker. Currently learning CUDA/C++, Godot, and some JS/CSS.

Projects & Labs

- **NLP and LLMs:** Finetuning LLMs using LoRA and DPO. Reimplemented "Unsupervised Multi Modal Translation" as a project to get familiar with transformers and multi modality.
- **RL :** Experimenting with RL in Godot engine (training agents to master Skull King and simple environment navigation)
- **Generative AI:** [Conditional graph generation](#) and music sheet generation using diffusion and [Flow Matching](#)
- **Finance:** Used Mistral API to set up analysis of the FOMC meeting minutes and speech data in order to attempt predicting signals ([Link](#))
- **GPU Programming:** GPU-accelerated Monte Carlo simulation for the Variance Gamma model. Rewrote and optimized GPU kernels for a given pytorch neural network to further optimize inference time.

Publications

- **Machta, Y.**, Ali, O., Facque, A., Vlascenau A., Hakkakian, K., Golse N., Vignon-Clementel, I. (2024). "Improving 3D Liver Vessel Segmentation through Topology Preservation." In *MICCAI ADSMI Workshop*, 2024. ([Arxiv](#), [Poster](#) and [code](#))

Extracurricular Activities

- **ENSAE English Debating Team** 2022–2023
[FDA Tournament Winner](#)
- **Sports and Student Councils** 2022–2023
Organized various events and activities at ENSAE Paris. Played on the volleyball team.

Languages

- **Arabic:** Native
- **French:** Native
- **English:** C1

Last built on August 20, 2025.
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