Yassine Machta

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Personal Page

Education

- **ENSAE Paris**   2021–2025
  Engineering Curriculum: Data Science, Statistics and Learning. GPA: 3.8
- **Institut Polytechnique de Paris**   2024–2025
  Masters 2 Data Science

Work Experience

- **Research Intern**   Inria - ARTICULAB, Paris
  May 2025 – Nov 2025   *Supervised by: Cassell, J and Le chapelier, M*
  - Exploring believable realtime gesture generation for virtual embodied conversational agents

- **Research Intern**   Sony R&D, Stuttgart
  Jan 2024 – Jun 2024   *Supervised by: Facius, Z and Franchesci, R Letter of Recommendation*
  - Conducted experiments to benchmark the impact of uncontrolled environments on 3D reconstruction.
  - 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. Look at the 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, Linux. Learning C++, Godot, and some JS/CSS.

Projects and Labs

- Reimplemented "Unsupervised Multi Modal Translation" as a project to get familiar with transformers and multi modality.
- Built Monte Carlo simulations for Lotka-Volterra models and conducted time series forecasting.
- NLP and LLMs : Finetuning LLMs using LoRA and DPO.
- 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

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)
- *Hopefully more to come!*

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 for 3 years.

Languages

- **Arabic**: Native
- **French**: Native
- **English**: C1
- **Spanish**: A2

Last built on June 1, 2025.
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