

Ismail Labiad

X2020 | MVA

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Education & Diplomas

- 2023 - 2024 **Master 2, Mathematics, Vision, Learning (MVA)**, ENS Paris-Saclay
Relevant courses: 3D computer vision, Geometric data analysis, Generative models for images, Inverse problems and imagery: statistical and stochastic approaches, Algorithms for speech and NLP, Convex optimization
- 2020 - 2024 **Engineering Degree, Diploma of École Polytechnique**, Ecole Polytechnique
Applied Mathematics Major

Professional Experience

- 2023
Title
Description
Supervisors **Research Intern**, INRIA (Magnet Team), Lille, 5 months
Fairness in fully decentralized federated learning
Proposed a decentralized version of SearchFair and provided theoretical guarantees on the obtained level of fairness for the practical version of the algorithm.
[Michael Perrot](#) and [Batiste Le Bars](#)
- 2022
Description
Supervisor **Research Intern**, ReciTAL, Paris, 3 months
Developing and analyzing the training of the latest NLP models on document processing.
[Jacopo Staiano](#)
- 2021
Description **Software Engineer Intern**, Freterium, 1 month
Developed an optimization algorithm for the 3D bin packing problem with additional constraints (rotations, weight limit and client-grouped products) and worked closely with the dev team to test it on a client dataset.

Teaching

- 2020 – 2021
Description **Tutor**, Lycée Paul Eluard, 5 months
Helped high-school and undergraduate students in mathematics and physics by organizing small tutoring groups and adapting abstract concepts (as part of the human and military training program at Ecole Polytechnique).

Academic Projects

- 2023
Description **Research project**, 3 months, Principal Component Analysis
The theoretical aspect of PCA (perturbation theory) and some of its applications: spectral clustering, image compression, anomaly detection.
Supervisor [Karim Lounici](#)

2023 Description	Snake Game , group project, Reinforcement Learning Investigated the effect of state coding on the agent and proposed a trained agents that matches human performance on small boards. project report
2022 Description	Research project , 3 months, Tropical Support Vector Machines Proof of the existence of an optimal margin separating tropical Halfspace/Hyperplane and development an algorithm to compute it.
Supervisors	Stéphane Gaubert and Xavier Allamigeon
2022 Description	Group project , Acoustic keyboard eavesdropping Reconstructing typed text from keyboard taps audio recording using AI and Hidden Markov models in collaboration with “Gendarmerie Nationale”.

Personal Projects

2022 Description	Chrome Dino , Python Creating a Chrome Dino game copy and an RL agent capable of learning to play the game from visual inputs.
2021 Description	Sarcastic headline classification , Python Used GloVe word vector representation with LSTM layers to classify a dataset of news headlines.

Computer Skills

Programming	Python, Java, C#, Dart, C/C++, R
Technologies	Flutter, Unity
Tools	Git, LaTeX

Languages

French	Fluent
English	Fluent
Arabic	Mother tongue
Spanish	Beginner

Other

Software dev	Mobile/Web Apps, Games
Sport	Cross-training, Climbing