

Ismail Labiad

3rd year student at Ecole Polytechnique

phone: +33 (0)7 52 03 91 29
email: labiadismail@gmail.com
web: <https://ilabiad.github.io/>

Education & Diplomas

2023 - 2024	Master 2, Mathematics, Vision, Learning (MVA) , ENS Paris-Saclay
2020 - 2024	Engineering Degree, Diploma of École Polytechnique , Ecole Polytechnique Applied Mathematics Major
2018 - 2020	CPGE, MPSI-MP* , Lycée d'Excellence de Benguerir Ranked 14 th on the national level in High-school Mathematical Olympiads (2018)

Professional Experience

2023 Title Supervisors	Research Intern , INRIA (Magnet Team), Lille, 5 months Fairness in fully decentralized federated learning 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)
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Academic Projects

2023 Description Supervisor	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 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	<u>Stéphane Gaubert</u> and <u>Xavier Allamigeon</u>
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