

Ismail Labiad

X2020 | MVA

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Professional Experiences

2024	Research Intern, Meta (FAIR team), Paris, 6 months
Title	Fake detection and adversarial attacks on images
Description	Worked on adversarial attacks using gradient free black-box optimization and integration of their detection to detect fake images. paper Proposed a new method to watermark images via quantization and recent text watermarking approaches. report
Supervisor	Olivier Teytaud
2023	Research Intern, INRIA (Magnet Team), Lille, 5 months
Title	Fairness in fully decentralized federated learning
Description	Proposed a decentralized version of SearchFair and provided theoretical guarantees on the obtained level of fairness for the practical version of the algorithm. report
Supervisors	Michael Perrot and Batiste Le Bars
2022	Research Intern, ReciTAL, Paris, 3 months
Description	Developing and analyzing the training of the latest NLP models on document processing.
Supervisor	Jacopo Staiano
2021	Software Engineer Intern, Freterium, 1 month
Description	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.

Education & Diplomas

2023 - 2024	Master 2, Mathematics, Vision, Learning (MVA), ENS Paris-Saclay <i>Relevant courses:</i> 3D computer vision, Geometric data analysis, Generative models for images, Inverse problems and imagery: statistical and stochastic approaches, Algorithms for speech and NLP, Online algorithms, Convex optimization
2020 - 2024	Engineering Degree, Diploma of École Polytechnique, Ecole Polytechnique Applied Mathematics Major <i>Relevant courses:</i> Statistics, Fundamentals of CS, Operations research, Monte Carlo methods, Advanced algorithms, Robots and drones, Advanced ML and autonomous agents, Optimization, Regression and classification, 3D Computer Graphics

Academic Projects

2023	Research project, 3 months, Principal Component Analysis
Description	The theoretical aspect of PCA (perturbation theory) and some of its applications:

Supervisor	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	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	SLURM, Git, LaTeX

Languages

French	Fluent
English	Fluent
Arabic	Mother tongue
Spanish	Beginner

Other

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