IMAD EDDINE MAROUF

Portfolio IemPROG.github.io/

✉ imad.marouf@ip-paris.fr

in linkedin.com/in/iemprog/

⬡ @IemProg

Ⓜ Medium @iemprog

Education

PhD Student | Continual Learning in Deep Learning |
Institut Polytechnique de Paris
Oct, 2022 - 2025
Supervisors: Dr. S. Lathuilière / Dr. E. Tartaglione

Data&AI Masters Graduate | PhD Track |
Institut Polytechnique de Paris
Palaiseau, France
*with Honors, **GPA**: 16.41 / 20 (Rank: 2/43 students)*
Sept, 2020 - 2022

Exchange Semester |
Ecole Polytechnique Fédérale de Lausanne (EPFL)
Lausanne, Switzerland
Feb - Sept, 2020

Undergraduate | Electronics Engineering /Minor: Computer Science
Sorbonne Université (ex-UPMC)
Paris, France
with *Honors*, **GPA:** *15.58 / 20 (Top 3%, 132 students)*
Sept 2018 - Feb 2020

Experiences

Research PhD Intern at Computer Vision Center
Continual Learning for Visual Question Answering Models
- Developped a distillation method for continual learning in vision-language models for visual-question answering.
Supervisor: Pr. Joost Van de Weijer
Barcelona, Spain   05/2024 - 10/2024

Machine Learning Consultant, KOBIL Company
Speech Authentification Model
- Developed a speech-authentification model for the SuperApp of Istanbul city.
Supervisor: Dr. Deniz Kumlu
Full-time remote   02/2023 - 11/2023

Research Intern at U2IS Laboratory, ENSTA
Uncertainty Quantification for 3D Human Pose Estimation
- I did investigate and evaluate well-know uncertainty estimation methods for 3D HPE.
- We proposed a framework to evaluate the plausibility of the predicted 3D human pose with respect to a memory bank of human poses
Supervisor: Dr. G. Franchi
Palaiseau, France   04/2021-08/2021

Research Student (Part-time) at LTCI Laboratory, Telecom-Paris
Interpretability of Neural Networks / Deep Learning
- The goal of the research project is to study which penalties, constraints, and loss functions can be used to enforce invariance in interpretability framework of neural networks "FLINT".
Supervisor: Pr. Florence d'Alché-Buc
Palaiseau, France   10/2020 - 02/2021

Research Student (Part-time) at IVRL Laboratory, EPFL
Unsupervised IR-RGB Joint Video Registration and Fusion
- Built a pipeline : registration and fusion of RGB and Infrared videos using unsupervised method.
- Aligned two videos of the same scene and bring all the essential information into single video in order to help firefighters throughout their missions.
Supervisor: Dr. Hakki Karaimer
Lausanne, Switzerland   02/2020 - 06/2020

Skills

Computer Vision	Deep Learning
Data Visualization	Machine Learning
Multi-Modal Models	

Programming

Python | Java | C/C++ | VHDL | JavaScript

Frameworks / librairies

Pytorch | PySpark | OpenCV | D3.js | Gym

Languages

French *(Fluent)* | Arabic *(Native)* | English *(Fluent)*

Awards/Scholarships

- Erasmus+ Scholarship by IP-Paris 2023-2024
- Excellence scholarship by IP-Paris *2021/2022*
- Swiss-European Mobility Scholarship 2020
- Top-10, Hajj Hackathon, Saudi Arabia, 2018
- Top-10, Algiers SmartCity Competition, Algiers, 2018
- 3rd Price, National Electronics Competition, INETECK2017
- 5th position in Cyber Security Competition 2013, Algiers
- Hall of Fame on "Telekom.com", reported a security bug.

Extra-Curriculum

- Volunteer at *Planètes Sciences association*
   - *Animating "Programming" sessions for children*
- Youtube content creator
   - *Youtube channel providing research papers explanations about AI/Robotics in Arabic language*
- Member at Association of Aeronautics & Aerospace, Jussieu, Sorbonne University.
   - *Working on a solar drone project*

Publications

- Marouf I.E, Roy S, Tartaglione E, Lathilière S. "Weighted Ensemble Models Are Strong Continual Learners", ***ECCV 2024 Oral (Top 3%)***.
- *Marouf I.E, Roy S, Tartaglione E, Lathilière S.* "Rethinking Class-incremental Learning in the era of Large Pre-trained Models via Test-Time Adaptation", *arxiv:2312.08977 (in-review)*.
- *Marouf I.E, Tartaglione E, Lathilière S.* "Mini but Mighty: Finetuning ViTs with Mini Adapters", **WACV2024** Conference.
- *Marouf I.E, Barras L, Karaimer H.C., Süsstrunk S.* "Joint Unsupervised Infrared-RGB Video Registration and Fusion", *London Imaging Meeting, **LIM 2021** Conference*.
- *Marouf I.E, "Is GPT-3 The Type of AI We Are Looking For From Ethical Perspective"*, Digital AI Ethics Student Competition. **Ethics4EU 2021.**

Projects

Multi-Echelon Supply Chain Optimization with Reinforcement Learning ⬡
- We studied RL methods applied for multi-echelon supply chain management problem. We show the strong potential of RL algorithms and their robustness to demand distribution shift.

IAPR Project ⬡
- Build a framework from scratch in order to track LEGO robot trajectory, and detect objects passed by the robot.

More projects about hardware design / data analysis are listed on my portfolio ⬡

🏃 SwinRun
Swimming
Skydiving