Farach Hamza

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I am currently pursuing my **Master's degree in Computer Science** at Keio University, Japan, where I conduct research in the Ohtsuki Laboratory under the supervision of Professor Tomoaki Ohtsuki. My work focuses on deep learning for human pose estimation.

EXPERIENCE

Graduate Researcher 09/2025 – Present
Keio University Tokyo, Japan
- I am currently conducting research in **computer vision** and generative AI, working on **3D deep learning techniques for LiDAR point cloud data** to improve **3D human pose estimation** in the context of human activity recognition (HAR).

Computer Vision Research Intern 04/2025 – 09/2025
Interdigital R&D France Rennes, France
- Developed **FGA-ANN**, an attention-based deep learning model achieving state-of-the-art performance for normative film grain analysis. In parallel, designed the **first deep learning–based similarity metric** specifically tailored to film grain characteristics.
  - Contributed to **two invention patents**, a **conference paper (under submission)** and a **film grain database.**

Student Research Project 10/2024 – 03/2025
Centre Hospitalier Universitaire de Nantes Nantes, France
- Construction of graphs based on a public EEG database.
- Implementation of a graph learning method inspired by the Graph-in-Graph neural network approach for the prediction of Mental motor imagery Performance fusing EEG and clinical data, implemented in **PyTorch**.

EDUCATION

Keio University 09/2025 – Present
M.Eng in Computer Science Tokyo, Japan
- Research master's degree combining advanced courses in computer science and mathematics (**computer vision, NLP...**) (~20%) with research work in an academic laboratory (~80%). Currently conducting research in computer vision, focusing on deep learning for 3D human pose estimation in the context of human activity recognition (HAR).

Ecole Centrale de Nantes 09/2023 – Present
Engineering degree - Specialization in "AI for Image and Signal processing"" Nantes, France
An engineering education from one of France's leading engineering schools, providing strong foundations in computer science, applied mathematics, and scientific research.
- **1st year:** General engineering curriculum (Statistics, Optimization, Linear Algebra, Computer Science, Physics, and Electronics), completed with a Bachelor's degree. ***GPA: 3.55/4.***
- **2nd year:** Specialization in *AI for Image and Signal processing*, covering **Mathematical Optimization**, Probability theory and Statistics, Deep Learning, Image processing, Signal processing, Time series and Forecasting, Graphs (GNN, GCN...). Equivalent to the first year of a Master program ***GPA: 4.0/4.***

Lycée Louis Le Grand 09/2020 – 07/2023
Preparatory classes : MPSI-MP Paris, France
- Two years of highly selective and intensive preparatory studies in Mathematics, Physics, and Computer Science for the national competitive entrance examinations to France's top engineering schools.Equivalent to the first two years of a Bachelor's degree.

LANGUAGES

English — Fluent

French — Native

Arabic — Native

Spanish — Intermediate

CODING SKILLS

Python (Numpy, PyTorch…), **C**, **C++**, **SQL**, **MATLAB**