Abdelmalek Belghomari

Master's Student in Computer Science and Artificial Intelligence Engineering

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🔗 abdelmalekbelghomari.github.io   in Abdelmalek Belghomari   abdelmalekbelghomari

Experience

Shibaura Institute Of Technology — Neural Information Systems Laboratory   *Tokyo, Japan*
Research Intern — Supervisor: ✉ *PhD Ryosuke Hosaka*   *May 2024 – Aug 2024*

- Developed a **Liquid State Machine**, achieving accurate predictions for chaotic time-series data.
- Implemented **Machine Learning**, **Deep Learning**, and **Reservoir Computing models** with **Spiking Neural Networks**, advancing neuromorphic computing research
- Demonstrated a **rapid learning curve** and adaptability to new fields, tools, and programming languages

Projects

Entrepreneurship Project — Orange Innovation Academy   *2024 - Now*

- Pitched my project idea, set up a business plan and developing innovative services
- Currently developing a web-app platform for my project idea and **managing a group of 6 people**
- Tools Used : React.js, TailwindCSS, Firebase

Chatbot AI — LCL Hackathon & Google Cloud - Ranked: 3rd   *Sept 2024*

- **Fine-tuned** Gemini-AI using GCP and Langchain
- Tools Used: Google Cloud Platform, Python, HTML/CSS/JS, React.js, Docker, Firebase, Langchain

Person and Text Recognition from Keystroke Sounds on a Laptop Keyboard   *2023 - 2024*
ENSICAEN & GREYC

- Worked on **CNNs** and **Transformers** (CoAtNet) for sound recognition
- Achieved signal processing to detect keystrokes from a laptop microphone capturing the ambient noise
- Tools Used: Python, MATLAB, TensorFlow, MFCC, Gitlab/Github

ENSICAEN Goose Game — Academic project   *2023*

- Tools Used: Java, JavaFX, Scene Builder

Education

National Engineering School of Caen (ENSICAEN) — GPA: 4.0/4.0 - 14,88/20   *Caen, France*
MEng in Computer Science majoring in Artificial Intelligence, Image and Sound   *Sept 2021 – Aug 2025*

- **Coursework: Machine Learning**(A.Lechervy), **Deep Learning**(L.Simon), Image Processing(Y.Queau), **Software Architecture**(R.Clouard), **Software Development**, Pattern Recognition(L.Brun), 3D Image Synthesis(L.Simon), Computer Architecture, **Data Mining**(C.Rosenberger)

Théophile Gautier Preparatory Classes — High Honours   *Tarbes, France*
Preparatory School for top-ranking French establishments   *Sept 2018 – June 2021*

- **Coursework: Algebra**, **Analysis**, **Computer Science**

Skills

Languages: French (native), **English (Fluent)**, Spanish (Intermediate), Japanese (Beginner)

Programming : C, **C++**, **Python**, Java, React.js, PHP, SQL, Kotlin, Swift, MATLAB

Technologies: TensorFlow, **PyTorch**, Scikit-Learn, Pandas, Google Cloud, Qt, JavaFX, Jakarta EE

Interests: Swimming (Top 160 world at my best), Entrepreneurship, Working-out, Fashion, Cuisine