HECTOR TALER-FRAISSE

ENGINEER - AI AND COMPUTER VISION

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SUMMARY

Passionate about AI applied to vision systems, I am looking to join a project where my curiosity and initiative can generate value and support the development of innovative solutions.

EDUCATION

MSc in Electronics Engineering - ENSEIRB-MATMECA   **Sept 2022 - Jan 2026**
- Major in Signal and Image Processing: deep learning, computer vision.
- Analog and digital electronics, programming for embedded systems and FPGAs.

Exchange Program - University of Bologna, Italy   **Sept 2024 - Feb 2025**
- Computer Vision, Generative AI, Natural Language Processing (NLP & LLMs).

Preparatory Classes for National Competitive Exams (CPGE)   **Sept 2020 - June 2022**
- PCSI & PC: Intensive undergraduate program in Mathematics, Physics, and Chemistry.

PROJECTS

Chrome Extension - Intelligent Navigation Assistant   **(Personal project) Oct 2025 - Feb 2026**
- Application Development: PostgreSQL database with pgvector for vector indexing, RAG, Dockerized FastAPI, NLP semantic clustering, LLM integration, and function calling patterns.

Embedded AI Algorithms for Digit Recognition   **January 2026**
- Development of a CNN inference engine in C and OpenCV preprocessing pipeline in C++.
- Application deployment via Docker and SSH on Raspberry Pi 5.

"Incremental Monocular Structure from Motion" (SfM)   **Dec 2025 - Jan 2026**
- Camera pose estimation and 3D point cloud reconstruction from a monocular video sequence, epipolar geometry, triangulation, and bundle adjustment algorithms.

Customized Handwritten Text Recognition tailored to the user's handwriting   **Oct 2025 - Jan 2026**
- Training and fine-tuning CRNN and Transformer neural networks using PyTorch and Hugging Face.
- Management of model lifecycles for tested and fine-tuned models via MLflow and Git for MLOps.

WORK EXPERIENCE

AI Engineer Intern – DAYUSE, Paris   **March - August 2025**
- Designed and deployed an internal RAG-based chatbot.
- Developed several mailing and web scraping POCs to evaluate LLM costs and performance.
- Conducted a 'make or buy' analysis of AI solutions (DUST, AWS Knowledge Base).
- Developed a 130-feature engineering pipeline for a recommendation system.

Hardware Design Intern (FPGA) – NimbleAI Project – IKERLAN, Spain   **May - August 2024**
- Designed a VHDL module to decompress real-time data streams from event-based cameras.
- Implemented and validated the module on an FPGA, meeting all precision and throughput specifications.

Computer Vision Intern – THALES – Image Annotation for Embedded AI Project   **May - June 2023**

TECHNICAL SKILLS

C++	Git	MATLAB
Python	Docker	VHDL
Pytorch	FastAPI	OpenCV
Hugging Face	MLFlow	Kalman

HOBBIES

- Programming projects
- Geopolitics
- Reading
- Running & Gym

LANGUAGES

- French : native speaker
- English : Full Professional Proficiency (IELTS: 7.5/9) - C1
- Spanish : intermediate