

Ramzy Rafla

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Education

ETH Zürich

MSc in Robotics, Systems and Control

Starting Sept 2026

EPFL

BSc in Electrical and Electronic Engineering

Sept 2023 – Jul 2026

- **GPA:** 5.20/6
- **Coursework:** Analysis I–IV, Matrix & Numerical Analysis, Probability & Statistics, Machine Learning & Data Science, Signal Processing, Control Systems, Embedded Systems, Telecommunications, Microwave & Antennas.
- **Teaching Assistant:** Analysis I & III, Introduction to Electricity (2 semesters).

Imperial College London

Physics and Mathematics Summer Programme

Summer 2022

Experience

Data Science Intern

MNT-Halan (Egypt's First Fintech Unicorn)

Cairo, Egypt

Jul 2026 – Aug 2026

- Built a content-based recommendation engine combining customer affinity and product popularity.
- Engineered a 63-feature credit-risk dataset from 300k+ loan applications for default prediction.
- Built a hybrid RAG pipeline (Dense + BM25 + Cross-Encoder), achieving 88% Acc@1 and 100% Acc@4.

Medical AI Research Intern

Idiap Research Institute

Martigny, Switzerland

Feb 2026 – Jul 2026

- Developed a 3D CNN pipeline for renal artery abnormality detection in CTA scans.
- Rebuilt the preprocessing workflow to eliminate patient leakage and preserve anatomical geometry.
- Evaluated five image representations, achieving a test AUROC of 0.840.

Artificial Intelligence Engineer

EPFL Innovation Park

Lausanne, Switzerland

Jul 2025 – Nov 2025

- Co-developed Corporate Trust Index, an AI system for detecting corporate fraud from weak public signals.
- Built web-scale data pipelines and supported model development; selected for the EPFL Startup Launchpad.

Founding Engineer

EHL Innovation Hub

Lausanne, Switzerland

Nov 2025 – Jan 2026

- Built Suite Assist, an AI concierge answering guest questions from hotel documentation.
- Developed the RAG backend using OpenAI embeddings, Pinecone, OpenRouter, and custom guardrails.

Project Manager & Human Resources Committee Member

Junior Enterprise EPFL

Lausanne, Switzerland

Feb 2025 – Present

- Managed a CHF 50K+ portfolio of AI/software client projects while supporting recruitment and internal operations.

Full Stack Engineering Intern

Microsoft

Cairo, Egypt

Jul 2024 – Aug 2024

- Built an internal ride-sharing platform using React, ASP.NET Core, and C# to reduce employee commuting emissions.

Projects

Software-Defined FM Stereo Receiver

GNU Radio, DSP, FIR Filters

- Implemented a complete FM stereo receiver with demodulation, 19 kHz pilot recovery, stereo reconstruction, filtering, and 250-to-48 kHz resampling; validated live reception and implemented an arctangent-free FM demodulator.

Deep Learning Image Classifier

Python, PyTorch

- Built an end-to-end beverage classifier by scraping $\approx 2,000$ images, fine-tuning ResNet18 with augmentations, and implementing a modular training pipeline with checkpointing.

Embedded Game Development on Nintendo DS

C, ARM, libnds

- Built a real-time game on ARM9/ARM7 processors, implementing timers, interrupts, graphics, audio, touchscreen input, and sprite management directly on the hardware.

FawzyChat

React, FastAPI, OpenRouter

- Built a multilingual voice assistant supporting transcription, translation, email drafting, custom Arabizi normalization, and real-time browser recording.

Publications & Thesis

- **Bachelor Thesis:** *Computer-Aided Detection of Renal-Artery Abnormalities in CT Angiography*, EPFL & Idiap Research Institute, 2026.

Skills

- **Languages:** Arabic (Native), English (C2), French (C2), Spanish (A2)
- **Programming:** Python, C++, C, TypeScript
- **Frameworks/Libraries:** PyTorch, React, FastAPI, scikit-learn, Pandas, NumPy, Matplotlib, Gtkmm