

RAYEN NACEF

+(216) 24 639 522 ◊ rayen.nacef@ensi-uma.tn ◊ [LinkedIn](#) ◊ [GitHub](#) ◊ [Portfolio](#)

PROFESSIONAL EXPERIENCE

AI Research Internship - Mila, Polytechnic Montreal, Canada - MITACS Program Jul - Sep. 2025
Pioneered token-level credit assignment in GRPO- λ paper, boosted LLM reasoning accuracy by 18%, and contributed to training pipelines, dataset preprocessing, and reinforcement learning techniques for reasoning tasks.

Key words: LLM, RL, Python, Pytorch Transformers, HPC, Reasoning, Github, Slurm, Linux Bash

End of Study Internship - Proxiad [GitHub Link](#) Feb - Mai. 2025
Built an e-commerce chatbot to track orders and handle claims, implemented data preprocessing pipelines, dynamic knowledge base integration, and fine-tuned models for natural language interaction with role-based access.

Key words: LLM, RAG, FastAPI, Spring Boot, Angular, Python, Java, Docker, Kubernetes, Gitlab, Keycloak

Summer Internship - Focus Corporation [Github Link](#) Jul - Aug. 2024
Developed an LLM-powered digital assistant for the automotive industry for responsive interaction and Wireshark-based network diagnostics.

Key words: LLM, NLP, RAG, Data preprocessing, DL, GenIA, Python, HF, Docker, Prompt Engineering, Ollama

PROJECTS

CryptoFacial Recognition Dec - Jan. 2025
Developed a real-time facial recognition system with OpenCV and the face recognition library, integrated with secure AES encryption for communication between a client (PC) and an embedded device (ESP32).

Key Words: Python, ESP32, TCP Socket, Face recognition, AES, OpenCV

FreeRTOS-Based Real-Time Robot Control System Oct - Nov. 2024
Designed and implemented a multitasking system for a remotely controlled robot, featured a real-time motor control and battery monitoring via a TCP-based server.

Key Words: C++, FreeRTOS, ESP32, TCP/IP, multitasking, GPIO, ADC, embedded systems

Intelligent Intrusion Detection for CPS [Github Link](#) May - Jul. 2024
Implemented four machine learning algorithms for intrusion detection, reduced false positives by 30% and enhanced detection accuracy.

Key Words: Machine Learning, Scikit-learn, TensorFlow, Keras, Python

HexaSwift Robot Feb - April. 2024
Designed and developed an autonomous hexapod robot for indoor navigation with mobile app integration, combining robotics and AI for improved indoor navigation.

Key Words: OpenCV, Raspberry Pi, Embedded C, PID, ArUco Markers, Arduino, UART, Python

EDUCATION

ENSI - Computer Science Engennering diploma 2022 - 2025

IPEIT - Preparatory Cycle for Engineering Studies in Physics and Chemistry, DEUPC diploma 2020 - 2022

SKILLS

Programming Languages:	Python, C, C++, Java
AI Area:	ML, DL, GenAI, Computer Vision, RL, LLM, NLP
Hardware Environments:	ESP32, STM32, Raspberry pi
Tools:	PlatformIO, STM32 Cube IDE, VS Code, Git ,GitHub, Keil, IntelliJ Idea
Platforms:	Windows, Linux
DevOps Tools:	Docker, Kubernetes, Gitlab, CI/CD
Database:	PostgresSQL, SQL, Redis
Soft Skills:	Reaserch Writting, Time Management, Team Work, Quick Learner
Languages:	English, French, Arabic