Sif Yacine

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Professional Summary

Computer Engineer with a Master's degree from IGEE, focused on AI and software development. I have practical experience in big data engineering and full-stack development from internships at Kloufi and Kricar, where I worked on web scraping systems, Odoo customization, and mobile app development. My academic projects include a transformer-based gesture recognition system and a facial recognition security system. I'm skilled in Python, Django, Flutter and machine learning frameworks, and I'm looking for opportunities to work on challenging technical problems in software engineering or AI.

Education

IGEE (formerly INELEC), Bachelor of Electrical Engineering — Dec 2020 – Jun 2023

- **Specialization:** Electrical Engineering & Electronics
- **Capstone Project:** Developed an intelligent school security system integrating facial recognition and RFID technology for automated student attendance tracking and access control
- **Key Coursework:** Digital Signal Processing, Microcontroller Systems, Power Electronics, Arduino, Backend Development, Face Recognition

IGEE (formerly INELEC), Master of Computer Engineering — Sep 2023 – Jun 2025

- **Specialization:** Computer Engineering
- **Master's Thesis:** Transformer-Based Hand Gesture Recognition System Using EMG Signals — achieved superior accuracy over traditional CNN and LSTM models through advanced deep learning architectures
- **Key Coursework:** Deep Learning, Computer Vision, Natural Language Processing, Big Data Analytics, Advanced Algorithms

Professional Experience

Kloufi — Big Data Engineer Intern — Remote, Mar 2025 – May 2025

- **Technologies:** Python, Scrapy, BeautifulSoup, Selenium, Docker, Elastic Search, Redis.

Kricar — Software Engineer Intern — Remote, Jun 2025 – Aug 2025

- **Technologies:** Odoo, Python, PostgreSQL, JavaScript/TypeScript, Redux, REST APIs, Git

Technical Projects

Ongoing **Transformer-Based Hand Gesture Recognition Using EMG Signals** — GitHub Repository

- Architected a state-of-the-art deep learning model leveraging Transformer architecture to classify hand gestures from electromyography (EMG) biosignals
- Outperformed conventional CNN and LSTM models through attention mechanisms and positional encoding, demonstrating superior generalization on unseen test data
- Conducted comprehensive signal preprocessing including noise filtering, normalization, and feature extraction using wavelet transforms and time-frequency analysis

- Applied advanced techniques including data augmentation, dropout regularization, and hyperparameter tuning to prevent overfitting and enhance model robustness
- **Technologies:** Python, TensorFlow/Keras, NumPy, SciPy, Pandas, Matplotlib, Scikit-learn, Signal Processing

2023 **Intelligent School Security & Attendance System** GitHub Repository

- Designed and implemented an end-to-end biometric security solution combining facial recognition and RFID technology to automate student attendance tracking and campus access control
- Built a robust RESTful API backend using Django and Django REST Framework to handle real-time authentication requests, database operations, and user management
- Developed an intuitive React.js dashboard for administrators featuring real-time monitoring, attendance reports, alert notifications, and comprehensive analytics
- Integrated OpenCV and dlib libraries for face detection and recognition.
- Implemented RFID reader integration with Arduino microcontrollers for dual-factor authentication and failover mechanisms
- **Technologies:** Django, Django REST Framework, React.js, OpenCV, dlib, PostgreSQL, Arduino, RFID, Computer Vision

2022 – Present **Cross-Platform Mobile Application Portfolio** GitHub Portfolio

- Developed 5+ production-ready mobile applications using Flutter with features including JWT authentication, real-time databases, geolocation services, and internationalization (i18n)
- Implemented Firebase services including Cloud Firestore, Authentication, Cloud Messaging (FCM), and Cloud Functions for serverless backend operations
- Integrated mapbox Maps API and location-based services for navigation, geocoding, and proximity-based features in delivery and service applications
- Utilized state management solutions (GetX, Provider, bloC) to ensure scalable architecture and maintainable codebases across complex applications
- Collaborated in trello development teams using Git version control, code reviews, and sprint planning to deliver projects on schedule
- **Technologies:** Flutter, Dart, Firebase, Maps API, GetX, Provider, REST APIs, Git

Technical Skills

Programming Languages: Python, JavaScript/TypeScript, Dart, C++, C, Java, SQL, Assembly.

Frameworks & Libraries: Django, Flutter, Node.js, TensorFlow, Keras, OpenCV, NumPy, Pandas.

Databases & Cloud: PostgreSQL, Elastic Search, SQL Server, Firebase, Redis, SQLite.

DevOps & Tools: Git, Docker, Proxmox, Linux, Odoo ERP, REST APIs, Postman, Jupyter Notebook.

AI & Data Science: Machine Learning, Deep Learning, Computer Vision, Natural Language Processing, Data Mining, Big Data Analytics, Signal Processing

Mobile Development: Cross-platform Development, State Management (GetX, Provider), Firebase Integration, Push Notifications.

Languages

Arabic: Native proficiency

English: Full professional proficiency (fluent in technical communication and documentation)

French: Professional working proficiency (Intermediate)