

Ali Nabil Akil

aliakilpc@gmail.com | +961 76493172 | Baabda, Lebanon | [Linked in](#)

Summary

Telecommunications Engineering student with hands-on experience in full-stack web development (React, Node.js), FPGA-based systems, embedded platforms, and RF design. Currently developing a multi-tenant SaaS POS platform

Education

Antonine University, Telecommunications Engineering (Master Equivalent) Expected 2026 | Baalbek, Lebanon.

Technical Projects

Smart Bed System (FYP) | Team of 4 | (In progress; expected Feb 2026)

- Designed IoT-based health monitoring system with wireless data transmission achieving 95% signal accuracy
- Developed ESP32 firmware and custom PCB for real-time sensor communication and remote monitoring

Cortex POS - Multi-Tenant SaaS Platform | Solo | 2026 - Currently in Development.

- Built full-stack POS system with multi-store theme support (supermarket, fashion retail with size/color variants)
- Implemented Built comprehensive order management system with delivery tracking, multi-cashier inventory, bundling, tax handling, and analytics.

Stepped-Impedance Low-Pass Filter | Solo | 2025

- Designed and simulated 6th-order stepped-impedance filter achieving **2.5 GHz** cutoff with **-3dB** specification
- Performed impedance optimization and S-parameter analysis to match target frequency response

OFDM Transceiver FPGA Implementation (VHDL) | Solo | 2025

- Designed and implemented a complete OFDM TX/RX chain including FFT/IFFT, QAM modulation up to 64-QAM, cyclic prefix, and fixed-point arithmetic on FPGA.
- Verified functionality using ModelSim with self-checking simulations, achieving up to **3.2× FFT/IFFT speedup** through parallel optimization and stable timing across **1024-point FFT/IFFT** state machine design

Experience

Embedded Systems Contractor | Jan 2025-Present

- *Reduced manual intervention 40% via ESP32-controlled soil sensors*
- *Engineered hybrid MQTT/TCP Android app with offline mode + scheduling/manual control*
- *Implemented sensor data logic and device control firmware*

Certifications

- Cisco CCNA Introduction to Networks Cisco
- CCNA Routing & Switching

Technical Skills

- **Full-Stack Development:** React, Node.js, MongoDB, Prisma ORM, JavaScript, Git
- **Embedded Platforms & FPGA:** ESP32, PIC, Arduino, Altera/Intel DE2 Development Board, Quartus II
- **Hardware Description Languages:** VHDL, Verilog
- **Software & Programming Skills:** C/C++, Python, Bash Scripting, Linux, Java
- **RF & Antenna Design Tools:** CST Studio Suite, Gain Optimization, Beamwidth Control, S-parameter Analysis
- **Simulation, Design & Networking Tools:** MATLAB, Simulink, ModelSim, Proteus, MQTT, Packet Tracer, Cisco

Languages & Soft Skills

Languages: Arabic (Native), English (Advanced)

Skills: Communication, teamwork, analytical thinking, problem-solving, adaptability, leadership, and time management.