



Ibrahim Sharaf Aldin *Junior RF Engineer*

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📍 Tripoli, Lebanon

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🇱🇧 Lebanese

📅 03/04/2007

🐙 Ib-Sh0

💡 SKILLS

PCB Design: EDA & CAD Tools:

Altium Designer, KiCad, EasyEDA |

Design Capabilities:

Multi-layer Layout, Controlled Impedance, High-Speed / RF Routing, Schematic Capture | **Core Competencies:** Signal Integrity (SI), EMI/EMC Mitigation, Crosstalk Reduction, Length Matching | **Standards &**

Manufacturing: IPC Standards, DFM (Design for Manufacture), DFA (Design for Assembly)

Embedded

Programming: Platforms: STM32, ESP32, Arduino (ATmega) |

Languages & IDEs: C, C++, STM32CubeIDE, ESP-IDF, PlatformIO, Arduino IDE |

Protocols & Features: UART, SPI, I2C, FreeRTOS, Wi-Fi/BLE integration

SDR Engineering: Hardware

Platforms: HackRF, RTL-SDR, USRP, LimeSDR | **Software & Tools:** GNU Radio, MATLAB, Python, C++, GQRX, SDR# | **Core Competencies:**

Digital Signal Processing (DSP), IQ Data Analysis, RF Modulation/Demodulation, Spectrum Analysis

Instructor: Instruction &

Mentorship: Embedded Systems, Electronics, STEM Workshops, Technical Training | **Leadership &**

Roles: Technical Instructor at JE Company, Scout Leader, Activity Coordinator | **Core Competencies:** Curriculum Development, Public Speaking, Workshop Facilitation, Team Building, Youth Mentorship

👛 PROFESSIONAL EXPERIENCE

Instructor, Junior Engineers

08/2026 – Present | Tripoli, Lebanon

Teached courses related to Microcontrollers, Radio frequency, Digital Circuits

Freelance PCB Designer, N/A

01/2026 – Present

Several Projects involving Industrial Boards, RF Boards and IOT Boards

🎓 EDUCATION

Lebanese International University,

3rd Year Bachelor of Science in Computer Engineering

10/2024 – Present | Tripoli, Lebanon

Relevant Coursework: Signals and systems, Analog Communications, Electronic Circuits I

📁 PROJECTS

K.H.A.N.D.A.Q, Sub title Software Defined Radio (SDR) & RF Security System

08/2026 – Present

- **Overview:** Designed and implemented an SDR-based RF monitoring and signal analysis system.
- **Key Features:** Spectrum scanning, signal detection, signal classification, and protocol analysis across multi-frequency bands.
- **Tech Stack:** Software Defined Radio (HackRF/USRP/RTL-SDR), GNU Radio, Python, C++, DSP Algorithms.

Scout Ranger, Industrial Embedded & RF Hardware Board

01/2026 – Present

- **Overview:** Engineered an industrial-grade embedded system board featuring an **STM32** microcontroller and integrated **RF communication** capabilities.
- **Hardware & Firmware:** Implemented robust PCB layout for industrial environments, signal integrity optimization, and low-latency wireless communication protocols.
- **Tech Stack:** STM32 (ARM Cortex-M), RF Communication (LoRa/Sub-GHz/2.4GHz), C/C++, PCB Design & Layout.

Autonomous Color Block Sorting Car, AI Vision & Embedded Robotics Project

07/2026 – 08/2026

- **Overview:** Designed and built an autonomous mobile robot capable of detecting, sorting, and transporting color-coded blocks in real time.
- **Computer Vision & Control:** Integrated **HuskyLens** AI vision sensor for object detection/recognition and programmed an **Arduino** microcontroller for motor actuation and steering control.
- **Tech Stack:** Arduino (C/C++), HuskyLens AI Sensor, Servo Motors, DC Motor Drivers, Custom Chassis/Gripper.

CERTIFICATES

Training of Trainers (TOT): Certified Adult & Youth Facilitator

Wood Badge II (2 Beads): World Organization of the Scout Movement (WOSM) Leadership Certification

STM32 Microcontroller

Programming: Complete Embedded C & ARM Architecture (Udemy)

High-Speed & Multi-Layer PCB

Design: Electronic Hardware Design (Udemy)