Karim Bouanane

Junior engineer in embedded software development.
With a professional experience of 6 months in France.

CONTACT

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GitHub
karim-bouanane

Portfolio
website

LANGUAGES

English (Technical)
French (Bilingual)
Arabic (Native)

SKILLS

Programming Languages
- Assembly, C, Embedded C, C++, Python, Java, VHDL

Communication Protocols
- UART, I2C, SPI, CAN

Debugging Tools
- STM32CubeIDE Debugger, USART Logging, Logic Analyzer, Oscilloscope

Softwares
- KiCAD,
- TouchGFX, Git, Vivado
- VS Code, Atmel Studio
- STM32Cube, Keil uVision

Embedded Platforms
- Arduino, STM32, Raspberry, FPGA, Linux

EXTRA ACTIVITIES

5 courses on Youtube
4 times at the 10km race
Trainer of the Robotics Club
Member of a volunteer Club

EDUCATION

2018-09 - 2022-09 E.N.S.I.A.S Engineering School : Embedded Systems - **Rabat**
National School of Computer Science and Systems Analysis (E.N.S.I.A.S)

2016-09 - 2018-09 Preparatory Classes : Mathematics and Physics - Fez
CPGE - Lycée Moulay Idriss

PROFESSIONAL EXPERIENCES

- End of studies internship: CubeSat Nanosatellite | **C.S.U** | **France** - **05/2022 (6 months)**

Realisation of sensor drivers for the ADCS board, in compliance with the CNES standards. The testing and validation phases were also carried out. Project description.
tools - ***SW:*** *STM32CubeIDE, SonarQube, Git.* ***HW:*** *STM32F1, Accelero, Magneto, Gyro, IMU*

- 2nd year internship: e-health device | **ENSIAS** | **Rabat, Morocco** - **07/2021 (3 months)**

Realisation of a graphical user interface displaying different health indicators on a TFT LCD screen controlled by STM32. (see Github)
tools - ***SW:*** *C, C++, STM32CubeIDE, TouchGFX.* ***HW:*** *STM32F429D, LCD TFT, sensors.*

- Tutor for Moroccan students in France | Remotely - **05/2021 (2 years)**

Carrying out academic projects on *Linux, KiCAD, C, C++, Assembly x86,Java, Python, Flask, AI in search algorithms.*

PERSONAL PROJECTS

- Africa-wide competition: AMSA edition 6 - **10/2021 (2 months)**

Finalist team with a prototype system for pothole detection.
tools - ***SW:*** *Python, NodeJS.* ***HW:*** *GPS ublox, Raspberry Pi 3B, USB Camera, modem 4G.*

- **GPS/GSM tracker** - **01/2021 (4 months)**

Realisation of a position tracking system for vehicles. (see Github)
tools - ***SW:*** *C++, Embedded C, Atmel studio, Logic Salae, u-center ublox, NodeJS, HTML, CSS.* ***HW:*** *Logic analyzer, Arduino Nano, GPS ublox M8030, A9 GSM/GPRS.*

- Arduino Nano PCB design - **11/2020 (2 months)**

Designing a custom 2-layer Arduino Nano circuit board using the KiCad tool. (see Github)
tools - ***SW:*** *KiCAD.* ***HW:*** *Atmega328p.*

ACADEMIC PROJECTS

- **Compil**er of a custom programming language - **02/2021 (1 month)**

Development of a lexical and syntax analyzer of a new custom programming language. (see Github)
tools - ***SW:*** *C, Visual studio code, GitHub.*

- Two wheeled self-balancing robot - **03/2020 (3 months)**

End of the second year project : designing a self-balancing robot using the P.I.D control algorithm.
tools - ***SW:*** *C, Arduino IDE.* ***HW:*** *Arduino UNO, Accel & Gyro MPU6050, Stepper motor.*

CERTIFICATIONS

- C++ , Python , IoT , IoT & Cloud , Raspberry Pi , Arduino , Linux