

Iheb Mraihi Embedded Android Software Engineer



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Education

2017-2020 <i>Sousse-Tunisia</i> Speciality	National Engineering Diploma <i>National Engineering School of Sousse (ENISo), Tunisia</i> Industrial Electronics
2015-2017 <i>Tunis-Tunisia</i> Specialty	National entrance Exam to Engineering Schools <i>Preparatory Institute for Engineering Studies El Manar, Tunisia</i> Preparatory Cycle Mathematics and Physics
2015 <i>Bizerte-Tunisia</i> Speciality	Baccalaureate Diploma in Mathematics <i>High School of Bizerte, Tunisia</i> Baccalaureate Mathematics

PROFESSIONAL EXPERIENCES

06/2021 - Present : Sagemcom Software & Technologies Tunisia

Megrine, Tunisia

Role : Embedded Android Development Engineer

Field : Set-TOP Box

Projects: Android Core Team

Context: Working as a member of Android Core team to prepare and deliver a stable android software for different project teams.

Description :

- Fix the Dolby Test Fails to pass the Dolby Certification (Dual Decode,Zapping Time...)
- Migration of vendor Application from Sdk 30 to sdk 31.
- Compliance of vendor applications with Android 12 dependencies.
- Extends the existing hals to add new feature for the audio/hdmi/led hals.
- Support the other projects teams on the CTS Fails test to pass the google Certification.

Keywords : Android TV, GIT, Java, C/C++, HAL, HIDL, AIDL, DOLBY, DVB, CTS, JIRA, Confluence.

Projects: Smart Analytics Agent (SANA)

Context: In a team in charge of the embedded software bricks for our various audiovisual products, I am the main developer of the data collection program for Television decoders. This module, written in JAVA, is linked to a server part also

developed by Sagemcom under AWS architecture with a communication based largely on the MQTT protocol. This task was the opportunity to address many topics related to audio and video electronic products as well as the embedded Android environment.

Description :

- Integration of Smart Analytics Agent (SANA) package in STBs which contains an Android 10 , Android 11 and Android 12 OS.
 - API design, documentation and developing.
 - Design and development of native services to read STB hardware info from memory block devices and expose it to high-level apps.
 - Integration and adaptation of Native and third party modules.
 - Developing and implementing new features and functionalities in HAL
 - Integration and build of firmwares images.
 - Analyzing and fixing process crashes in Sagemcom packages
 - Bug fixing: Performs technical root cause analysis and outlines corrective action for given problems.
- Developing shell scripts.

Keywords : Android TV, GIT, Java, C/C++, MQTT, DVB, IPTV. DASH, Widevine.HIDL, AIDL, HAL, SELINUX.

02/2020 – 08/2020 Onetech-Group Tunisia

Bizerte, Tunisia

Role : Embedded systems Intern

Projects: Design and realization of a test bench FCT

Tasks:

- Study and design of two electronic boards, a relay board and a control board based on a Microcontroller PIC 24F with Altium Designer.
- Realization of a firmware using XC8 Compiler
- Realization of PCBs.
- Integration of the firmware, and testing of the PCBA.

Experience : C programming, Altium Designer , Mplab X IDE , XC8 compiler,I2C, Rs232

07/2019 – 09/2019 I-Prod Technology

Sousse, Tunisia Summer internship 2 (Engineering internship)

Project: Detection of black spots on saline bottles

Tasks :

- Configuration of the central unit (Raspberry pi 3 and camera).
- Development of the firmware in order to capture black dots on the bottles, using the OpenCv library.

- Realization of a Diagram (Number of defective cans per hour).

Experience : Computer Vision, Raspberry pi, Python, OpenCv

02/2019-05/2019 National Engineering School

Sousse, Tunisia End-of-year Project

Project: Realization of a controlled irrigation system

- Design of an electronic board based on Atmega 328p and ESP-8266

- Development of android application to command the system. Using android studio and Firebase

Experience: Internet Of Things, Android, Java, Firebase, Wifi, Electronic Design

07/2018 – 08/2018 Eleonetech, A OneTech Group Company

Bizerte, Tunisia Summer internship 1 (Introductory internship)

Project Electronic Board Assembly (PCBA).

Tasks:

- Participation in the various phases of electronic board assembly.

Skills

- **Embedded:** C/C++ , Java, Shell Script, Embedded Android/Linux, Cross Compilation, Cross debugging.
- **Protocols and communication:** SPI, I2C, UART ,USB, HDMI,CAN, TCP, HTTP
- **Others:** SCRUM, GIT, JIRA, Confluence, Jenkins.

Languages

French	Good
English	Good
Spanish	Basic
Arabic	Native