

AYOUB ACHAK

SOFTWARE ENGINEERING STUDENT

ABOUT ME

Sharing was the key for me to learn So much in the tech field. Helping People Helped Me practice My knowledge.

PROFESSIONAL EXPERIENCE

SOFTWARE ENGINEERING INTERNSHIP

05/23 - 09/23 | cbi.ma | Internship

I spearheaded the development of an innovative Cisco Router / Switch automation project, resulting in the creation of a versatile automation device powered by a Raspberry Pi Zero W, Achievements:

- Designed and created a groundbreaking automation device using Raspberry Pi Zero W and a 4-inch LCD screen to streamline operations for Cisco devices.
- Implemented versatile connectivity options including Serial, Telnet, and SSH, enabling users to collect and manage device logs, execute upgrade procedures, and run automated network commands, with logs tracked and stored for reference.
- Addressed a critical company challenge by providing a user-friendly graphical interface for clients, reducing the need for manual command execution and on-site visits.
- Deployed the application as a Linux service, powered by a Flask server and a React (TypeScript) frontend, delivering updates via CI/CD pipelines and ensuring seamless communication through WebSocket technology.

FULL STACK SOFTWARE ENGINEER

04/22 - 01/23 | Kezakoo.com | Part Time

Making UI/UX/DX and backend improvements, to make the experience usable and enjoyable for Millions of Moroccan Students, Achievements :

- Accelerated feature delivery by 40% through streamlined deployments (BitBucket, AWS).
- Increased student engagement by 30% with a gamification system (PHP, WordPress, JS).
- Improved resource accessibility, reducing search time by 50% (AjaxSearchPro, ElasticSearch, Kibana).
- Efficiently managed the Dev Team, achieving a 20% productivity boost.
- Enhanced mobile app performance, resulting in a 25% increase in user satisfaction with responsive APIs.

IOT, ANDROID AND FULLSTACK DEVELOPPER

05/22 - 09/22 | mirattibags.com | Part Time

Leading the next generation of IoT-connected Luxurious Leather bags in Morocco, Achievements :

- Created an IoT Android app with Gatt Server for BLE, incorporating Nrf, RFID, GPS, and 3G connectivity. Built using Android Studio, Bitbucket, Java, and was hosted on Github where I implemented CD/CI apk build.
- Collaboration with protomain.com for the hardware. Ensure the meet of quality to our customers.
- Creation and deployment of a portfolio website me.mirattibags.com for the Miratti community.
- Adding User Auth and SMTP Setup on mirattibags.com for sharing data between apps via WordPress RestAPI.

CONTACTS

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EDUCATION

2019 - 2023

CS AND AI ENGINEER'S DEGREE

ENSAM Casablanca Engineering School

2023 - PRESENT

SOFTWARE ENGINEER'S DEGREE

Brest National School of Engineering

PROGRAMMING LANGUAGES

Python3 . C . C++ . Rust . Java . JEE .
PHP . Ruby . JavaScript . TypeScript .
MATLAB . R . Bash

DATABASE

PL SQL/ORACLE SQL . MySQL . SQLite .
MongoDB . Neo4j .

DEPLOYMENTS AND CD / CI

AWS . Github . Git . BitBucket . Docker .
Kubernetes

MACHINE LEARNING TOOLS

Tensorflow . PyTorch . SKlearn .
OpenCV . Neat . Pandas . Numpy .
Matplotlib . SciPy . Keras

WEB TECHNOLOGIES

- Backend : Django -
NodeJS/ExpressJS - WordPress -
Laravel - Flask - Spring Boot -
GraphQL . web sockets . REST APIs
. web security.
- Frontend: React - vite - HTML - CSS
- Angular - JQuery - vanillaJS -
D3.js - Three.js

BIG DATA

Kafka . Map Reduce . ElasticSearch .
Hadoop . Spark . Zookeeper . LogStach .
Kibana

FRAMEWORKS

Electron JS . React Native . Android
Studio . PyQt5

NON PROGRAMMING LANGUAGES

English . French . Arabic.

PERSONAL PROJECTS

- **Project CM33** : Worked on the developpement new features for an interpreted programming language in C for the LPC55S69 board. Added Power Quad optimizations for parallele computing of Fourier Transforms and Cosins, and implemented new function to interact with the built-in accelerometer using I2C driver.
- **Real-time OS** : Worked on the developpement of a Real-time Operating System, implemented a semaphore pattern following the LPC55S69 board documentation, using efficient Data-Structures for handling task creation and execution, and efficient memory allocation using SVC hardware interepts.
- **JLang Programming language** : Created of a fully interpreted programming language using JAVA with the following features : Python / Javascript like syntax . Json objects . Multiple class inherrence . list comprehension . anonymous functions and anonymous classes . and all the most common programming languages paradigms. It's also almost as fast as python.
- **Parc** : Developpement of Management software for Fleet in a company's parking lot using Spring-Boot backend with React frontend, with user and role management, Spring Security (JWT), SocketIO for Internal Messaging.
- **Help Center Platform** : Developpement of App for Creating Comanies' Help Centers where they can post Blogs/ FAQ/ Receive contact messages using Laravel and Angular. Eliminating the Need to create a whole forum.
- **EasyArabic** : Worked on a Translation App for users attending the Qatar22 World Cup in React using Microsoft API, along with a weather API, FIFA Api to get match updates.
- **Jawb** : Developpement of a multiplayer game in Unity and C# where 2 players ask each other about a field, and the judge is AI ChatGPT API and SalsaLipSync for Avatar Lips Syncing, PhotonChat for real-time chat.
- **SQL Query Generation** : Developpement of 2 AI models for generating SQL Queries from Text prompts, the first using Seq2Seq model, and the second model using a fine tuned gpt-2 LLM on the training data using Python and Google Colab
- **ProxyNet** : Making a Peer-to-Peer mobile application in Flutter, implemented secure chat functionality and media transfer between peers in a sort of a decentralized social media.
- **The Leet DB** : Working on an innovative hybrid schemafull/schemaless AI database, designed for optimized AI-driven data analysis and image processing, using Rust for high performance and reliability and trying it on efficient image matching.

ACADEMIC EXPERIENCE

VICE PRESIDENT | TRAINING MANAGER

09/21 - 06/23 | @ciamcasablanca | Part Time

- I Trained 200+ members in Software skills: Python, AI, ML, DL, C, Web Dev, Catia.
- Contestant and Representant in the Moroccan National Programming Contest 2022.

TRAINING MANAGER | TECHNICAL CONSULTANT

09/21 - 06/23 | @aem.mechatronics | Part Time

- I Trained 200+ members in Robotics: C/ C++, Arduino, Python, Esp32/82, Raspberry Pi 4, Catia...etc, and Supervising Projects.
- 1. **ExtraConnect** : Development of comprehensive fleet management solutions, enabling real-time data collection using TCP communication on a central server, Utilized a diverse tech stack, including Python , OpenCV , Django , Tensorflow , Pandas and Numpy, CNN and YOLO for object detection, Sockets , Mapbox API , Raspberry Pi 4 for edge computing and Firebase for cloud integration.
- 2. **Silent Storm (3rd Prize Winner)**: Development of a native IoT watch tailored for individuals with speech impairments, enabling them to send text messages to a mobile app using Bluetooth (Esp32, Android Studio + Intuitive TFT screen interface / terminal).
- 3. **FireBuster** : Development of a sophisticated Gas and Flame detection system that transmits real-time data and sends SMS alerts upon detecting fires (XAMPP , PHP , MySQL / Esp32 , SIM 800 for SMS , Gas Sensor, Flame Sensor, and EPROM).
- 4. **Minho (3rd Prize Winner - MazeRunner Competition, 2020)**: Programming of a robot to excel in solving complex mazes efficiently. Designed a Breath first search algori to achieve the shortest completion time using Arduino microcontrollers (C/C++).

COMPETITIONS

- Orange Digital Transformation AI and Cloud Competition (2023): 1st Prize Winners for the developpement and Deployement of a Deep Learning Model On a Mobile App wich gives full recovery plan based on a picture of a Plant, using Python and Flutter and Google Colab with Tensorflow for model training, Fine tuning the model to achieve 94% accuracy, the project was recognized by the Minister of Education and Digital Transformation in Morocco.
- AMSA6 Hackathon by Alten Maroc (2022): Prototype of V2X (V2P and V2N) technology, Made it to finals.
- Orange Digitale Center Hackathon by Orange : Participated with ExtraConnect and made it to finals.
- Techaton 2021 by Capgemini Engineering Maroc : Prototype of Vehicule Automation using Python and Raspberry pi, made it to finals.
- Oreal BrandStorm 30 by l'Oreal (2022): Prototyped a Massaging Digitale FaceMask Controlled by a Mobile App with Deep learning model for Face-Care type.
- Acquisition Days at Ensam Casablanca (2022) (Won The Best Project Manager Award) : Participated with FireBuster (Finals) and Silent Storm (3rd Prize winner).
- MNPC2022 by OCP, 1337 and UM6P (2023): 20/130 teams in the whole nation.

VOLUNTEERING

- Ambassador for Huawei HCIA AI and HCIA Big Data

CERTIFICATIONS

HCIA AI . HCIA Big Data . HCIA 5G . AWS Cloud Foundations