

MOHAMED FARES LANDOULSI

JUNIOR AI SOFTWARE ENGINEERING

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EDUCATION

Engineer's Degree : Software engineering 2020-2023

Higher Institute of Computer Science Ariana – Engineer's Degree in completion in December 2023

Computer science Bachelor 2017-2020

Institut supérieur des arts multimédia Manouba – Bachelor Degree completion in July 2020

WORK EXPERIENCE

Junior Artificial Intelligence engineer

January, 2024 – Ongoing

Novobit – code generation project

This project aims to generate code in different programming languages from user stories to help the developers be more productive. In **was in charge of** :

- Extracting relevant information from the user stories using classic **NLP** such as **part of speech tagging**, modern methods to generate descriptive text using **LLama3**.
- Analyzing user stories and checking if they provide enough information using **SroBERTa** to be able to pass them to the **LLM (GPT-4)** and generate the correct code.
- Improving the **prompt** that we pass to the LLM.
- Help deploying the **Llama3** using an **inference server Ollama**

Artificial Intelligence intern

May, 2023 – December 2023

Novobit – glasses for visually imapaired project

This project is a subproject of a smart glasses project that aims to provide assistance for individuals with visual impairment. The whole project contains these subprojects:

Police gestures recognition, hand gestures recognition, traffic signs recognition, face recognition, **obstacle detection**.

I was in charge of the **obstacle detection** system with two of my colleagues :

- This part of the smart glasses project helps visually impaired individuals be fully autonomous in homes and outside by providing an interactive **speech recognition module** and **wake word detection** technology. The individual can ask about the environment around him and get accurate descriptions (**image captioning** model named **BLIP**) and ask questions about the scene (**visual question answering** model named **ViLT**) and search for specific objects (**GroundingDino** model). Our obstacle detection system detects obstacles using **Yolov8**, an **instance segmentation** model.
- I was in charge as well of integrating this project with an **Intel RealSense** camera model **435i** to be able to get the **depth estimation** and extract distance from the camera to the objects to improve our obstacle detection system.
- I took the responsibility of **integrating** the system as a whole on the **Nvidia Jetson Orin** card, including the other parts of the smart glasses project.

Blockchain developer intern

Opus Lab

July, 2022 – November 2022

- Have developed a decentralized courses booking system using **Solidity**, **Hardhat**, **Ethereum**, **Ethers**, **React**, applying design patterns techniques.
- Learned how to apply **Normal Factory method design pattern**, **method template design pattern** into a real project

Web developer intern

July, 2021 – September 2021

Innovup

- Was in charge of developing and maintaining a web application for automating postal transfer through generating appropriate templates using **Python, Flask, Docker** and **MySql**. This project helped to fully eliminate manual repetitive tasks.

NLU/NLP developer intern

February 2020 – June 2020

iCompass

- Was in charge of developing a **chatbot** development platform based on **Rasa** Open source framework to automate the development of chatbots for both chatbot developers and non-tech users.
- Have learnt how to use **NLP, NLU** and **REST** API's in a real development project and expanded my knowledge on **MongoDB, Flask, Javascript, Scrum** and **UML**

PERSONAL PROJECTS

- FunAI : Optimizing **language models** prompts through an automatic pipeline based on **DSPy** framework, integrating cutting edges LLM tools such as **HuggingFace, Groq, Ollama, LangChain** for model inferencing and **RAG**
- Concerto : **Flask** and **React 18** Web App to match artists to venues using **Postgres, Flask-Migrate, Flask-SQLAlchemy, Docker, CI/CD**
- TuniSci : Rank professors, researchers in Tunisian universities based on h-index and i10-index **Python3, Data scraping, Scholarly, pandas**
- Naive images search engine using **Python3, pandas, numpy** using distance intersection.
- World Cup 2022 Management App using **SpringBoot, Angular 13, SpringSecurity**, having a prediction Model in **Python, Sklearn, pandas**
- Training management app using **SpringBoot, Angular 13, SpringSecurity, Swagger**
- Student management app to link students, administration, and professors of a certain university using **Flask, Python, pandas, SQLite3, SQLAlchemy, UML**

VOLUNTEERING ACTIVITIES

- **Contributing** to an active open source framework with more than 12K stars on **Github** named **DSPy** that optimizes language models prompting through meaningful code and pipelines.
- **Head Of High level programming at Freeways – 09/2021 – 08/2022** : Managing a team of students and helping them learn high level programming technologies
- **Project manager at Orenda Junior Enterprise – 08/2018 – 07/2019** : Build collaboration processes and documents such as templates for deliverables and specifications to automate the project department tasks using Agile and Scrum

CERTIFICATES

Linux Foundation

LFS170x: Blockchain

Microsoft Technology Associate

Introduction programming using Java

Coursera

Deep learning specialization

C++ for C programmers

MongoDB

MOO1 Mongo Basics

M220P MongoDB for python for devs