SINDA **BESROUR**

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Equipped with an engineering degree in telecommunications, DASEC specialty (Data Science for Embedded Communication) from the National Engineering School of Tunis. Worked as an AI consultant and Unity Developer at Talan Tunisia. Currently, a master's student in Computer Science at Moncton University. Interested in XR technologies, the metaverse, AI, and IoT.

EXPERIENCE

OCTOBER 2021 – DECEMBER 2022

AI CONSULTANT AND UNITY DEVELOPER, TALAN TUNISIA

- Worked with software development team members and 3D designers to rebuild Talan's metaverse "Owniverse" using Unity. Reviewed project specifications and developed a desktop and a Web version with multiple features: Multi-player with Photon Pun and Realtime, video chat with Agora, spatial audio chat with Photon Voice, private/group/global text chat with Photon chat, screen share with Agora, teleportation, group/private invitation to teleport, emote system, private bubble, avatar selection based on ready player me characters, click to move, etc.

- Worked with blockchain experts and AI engineering team members to design and implement a food waste management system for hotels.

- Used Git as a collaboration tool.

- Acquired experience with Python, JavaScript, Flask, FastAPI, Tensorflow, Keras, Unity 3D (URP), C#, Photon, Agora, etc.

JULY 2021 - SEPTEMBER 2021

RESEARCH INTERN, MONCTON UNIVERSITY

Developed a real-time physical activity prediction system:

- Collected data from several subjects using a motion sensor (accelerometer, gyroscope, magnetometer).

- Conducted experiments to test axis combinations (x, y, and z) with several machine learning models and chose the combination that gave the best trade-off between processing time and score (accuracy).

- Exploited research data to create representative graphs and charts highlighting results for presentations.
- Collected the data in real-time using the motion sensor, sent it to the server side for the prediction of physical activities, and returned the prediction result to a mobile application.

- Assisted in timely reporting and drafting of the conference paper.

FEBRUARY 2021 - JUNE 2021

IOT INTERN, TALAN TUNISIA

Contributed to team environment by sitting in on meetings and brainstorming new ideas for issue resolution.
Developed a smart parking solution that consisted of four main parts:

- Mobile part: help customers (drivers) to manage their reservations and payments.
- Artificial intelligence part: license plate recognition and vehicle dimension recognition.
- IoT part: deploy the AI models on the cloud and ensure communication between hardware, cloud, and mobile application.
- Desktop part: Development of a desktop application that ensures payment for the customer (driver).

Worked with high-performing teams, in an Agile environment.
Used Git as a collaboration tool.

AUGUST 2020

UNITY DEVELOPER INTERN, AVAXIA CONSULTING

Design of an air traffic simulator for aviation schools:

- Designed communication interfaces for air agents (controllers, pilots) with Unity 2D.
- Developed a speech recognition system to replace an agent in case of absence.

JUNE 2019

MANUFACTURING ENGINEERING INTERN, MARQUARDT AUTOMOTIVE

- Studied manufacturing processes to improve overall knowledge.
- Prepared standard reports and documentation to communicate results to senior management.

EDUCATION

JANUARY 2023 - DECEMBER 2024

MASTER'S DEGREE IN COMPUTER SCIENCE, UNIVERSITY OF MONCTON| MONCTON, NEW BRUNSWICK, CANADA

SEPTEMBER 2018 - JULY 2021

ENGINEER'S DEGREE IN TELECOMMUNICATIONS, NATIONAL ENGINEERING SCHOOL OF TUNIS | TUNIS, TUNISIA

SEPTEMBER 2016 - JUNE 2018

PREPARATORY CYCLE IN MATHEMATICS AND PHYSICS, PREPARATORY INSTITUTE FOR ENGINEERING STUDIES EL MANAR | TUNIS, TUNISIA

SEPTEMBER 2012 - JUNE 2016

HIGH SCHOOL DIPLOMA IN MATHEMATICS, SADIKI HIGH SCHOOL | TUNIS, TUNISIA

SKILLS

- Artificial intelligence: Machine Learning/Deep Learning, Computer vision, PyTorch, Tensorflow Keras, OpenCV, Pillow, Pandas, NumPy, Matplotlib, Seaborn
- Web/Mobile: HTML/CSS, React, React Native, NodeJS, ExpressJS
- Cloud: AWS EC2, AWS RDS
- Application Hosting: Flask, FastAPI, PM2, Nginx
- Databases: MySQL, MongoDB
- Collaboration tools: Git
- Operating systems: Ubuntu, Windows
- Hardware: Arduino, Beagle Bone Black, ESP32, Raspberry Pi 4
- Game Development: Unity 3D, Photon Pun, Photon Realtime, Photon Chat, Agora
- Methodologies: Scrum
- Programming languages: Python, Unity C#, SQL, JavaScript, C/C++

LANGUAGES

- Arabic (Mother tongue)
- English (Toeic B2)
- French (Delf B2)
- Turkish (Conversational)

CERTIFICATIONS

- Introduction to Machine Learning in Production (Coursera) | July 2022
- Certificate of completion - Deep Learning for IoT (Mitacs) | October 2021
- Microsoft Certified Azure AI Fundamentals | October 2021
- Getting Started with Power BI Desktop (Coursera) | June 2020

PAPERS

- A Real-Time IoT System and ML Algorithms: A Comparative Study | August 2022