



# Mariem Mnif

SOFTWARE ENGINEERING STUDENT

Pursuing a Software Engineering Degree at the Higher Institute of Computer Science and Multimedia (Sfax).

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## EDUCATION

### Software engineering cycle

Institute of Computer Science and Multimedia of Sfax (ISIMS)

2022 - 2025

### Integrated preparatory cycle

Institute of Computer Science and Multimedia of Sfax (ISIMS)

2020 - 2022

### Experimental science baccalaureate

Tayeb Mhiri High School

2019 - 2020

## PROFESSIONAL EXPERIENCE

### Gearbox Fault Detection System

Leipzig University of Applied Sciences (HTWK)

Leipzig/Germany

*Gearbox Fault Detection System*

- Development of a low-cost, real-time gearbox fault detection system leveraging edge and cloud computing to enable predictive maintenance. The system transmitted test data via UART communication to the MSP430G2553 microcontroller, which acted as the sensor node. Data was stored and processed on the microcontroller's flash memory, with the Goertzel algorithm applied at the edge for frequency analysis, providing early fault detection and alerts. The project focused on overcoming challenges in real-time data collection, fault detection accuracy, and system reliability, significantly reducing machine downtime and extending lifespan. **Technologies Applied: Predictive Maintenance, Edge Computing, Cloud Computing, Goertzel Algorithm, UART Communication Protocol, MSP430G2553 Microcontroller**

## VOLUNTEERING

Treasurer at IEEE ISIMS Student Branch

IEEEExtreme 16.0 Organizer

Member at Microsoft Tech Club ISIM-Sfax

## SKILLS

ANGULAR

TYPESCRIPT

Flutter

SpringBoot

PYTHON

SQL

PL/SQL

MongoDB

C#

.NET

JAVA

HTML

JAVASCRIPT

CSS

C/C++

JEE

JPA

Hibernate

MySQL

Oracle SQL

SQL Server

## PROJECTS AND ACADEMIC ACHIEVEMENT

### Full-Stack E-Commerce Web Application

- Developed a full-stack e-commerce web application for an online clothing store, integrating features such as dynamic product listings with filtering options, an intuitive shopping cart, efficient order management, secure payment gateway integration, and robust stock management. The application ensures a seamless user experience, accurate order processing, and improved product availability. **Tools used** : . Angular, Spring Boot, MySQL, XAMPP

### Full Stack Inventory Management Web Application

- Developed a stock management system focused on optimizing product management, allowing for accurate monitoring of stock levels, entries, and exits. Utilized the Model-View-Controller (MVC) architecture in .NET to seamlessly integrate both front-end and back-end functionalities, resulting in a user-friendly interface for efficient inventory management. **Tools used** : .NET, MVC architecture, SQL Server

### Mobile Application

- Designed and developed a mobile application for booking professional home services, including plumbers, electricians, and other service providers. It included a complete system for managing employee profiles, availability, and booking schedules to improve user experience and simplify service management. **Tools used** : Figma, Flutter, Spring Boot, MySQL

### Business Intelligence (BI) project

- Development of a BI project using extract, transform, load (ETL) processes to collect student education data (from primary school to baccalaureate) in Tunisia. Cleaning and loading the data, then creating visualizations to generate statistics to inform educational improvement. **Tools used** : Pentaho

### 2D & 3D design in Blender

- Designed 2D skincare product mockups and built a 3D animated car with sound effects **Tools used** : Blender

## CERTIFICATES

Scrum Fundamentals Certification (2023)

## LANGUAGES

Arabic

Native or Bilingual Proficiency

French

Professional Working Proficiency

English

Professional Working Proficiency

German

Limited Working Proficiency

## INTERESTS

Travelling

Volunteering

Listening to music