Emna Belguith

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SUMMARY

A curious and innovative final-year ICT engineering student at the Higher School of Communication of Tunis (Sup'Com), passionate about bridging artificial intelligence with diverse domains such as visual perception, intelligent systems, and human-centered technologies. Strongly motivated by the challenge of turning data-driven insights into impactful solutions.

EDUCATION

- **The Higher School of Communications of Tunis (SUP'COM)** 🌐 *September 2023 – Present*
  ICT Engineering Student Tunis, Tunisia
  Relevant Coursework: Artificial Intelligence, Big Data, Cloud Fundamentals, Data Science, Image Processing, Computer Vision, FMCW Radar and AI, MlOps for IoT Edges, Antenna Theory, Spatial Data Processing, Probability, Algorithmic Foundations, Optimization.

- **Preparatory Institute for Engineering Studies of Sfax** 🌐 *September 2021 - June 2023*
  Pre-engineering studies Sfax,Tunisia
  ◦ Ranked 58/1265 in the National Examination for Engineering Training Cycles (Physics-Chemistry)

- **July 25 High School** *September 2017 – June 2021*
  Baccalaureate Diploma (Science) Sfax, Tunisia
  ◦ Score: 16.96/20 – Highest Honors

EXPERIENCE

- **Anomalous Log Detection: RAG-based Classification for Electricity System Logs, Sagemcom** *October 2025 - Present*
  Research Project Tunis, Tunisia
  Tools: Python, Scikit-learn
  ◦ Built an intelligent system for detecting anomalous electricity logs by combining a Retrieval-Augmented Generation (RAG) framework with supervised classification to automatically identify abnormal events in industrial log data.

- **DevOps Development, OneTech Business Solutions** *1st July 2025 - 31 August 2025*
  Engineering Internship Charguia, Tunisia
  Tools: Dockerhub, SpringBoot, Python, Flask, PostgreSQL, REST APIs
  ◦ Worked on the automation of software project management and deployment.
  ◦ Implemented generation of Dockerfiles from inserted projects, automated image builds, and pipeline execution.

- **Backend Development, SparkIt** *22 July 2024 - 22 August 2024*
  Summer Internship Sfax, Tunisia
  Tools: PHP, Symfony, MySQL, REST APIs
  ◦ Contributed to the backend development of a website, focusing on server-side functionality, database integration, and API development.

PROJECTS

- **Anomalous Behavior Detection in Surveillance Videos** *November 2025 - Present*
  Tools: Python
  ◦ Developed a deep learning-based computer vision system for real-time detection and classification of abnormal behaviors (e.g., accidents, assaults, vandalism, theft) in surveillance videos, using video datasets such as UCF-Crime.

- **Geo-Aware Recommendation System for events** *October 2025 - Present*
  Tools: AWS (S3, Lambda, SageMaker, Kinesis), Apache Kafka, Python
  ◦ Developed a real-time geo-aware recommendation system using AWS (SageMaker, Kinesis), Kafka, and ML models to suggest nearby restaurants and hotels based on user behavior, location, and contextual factors such as time and weather.

- **Multimodal Search Engine: Image and Text Retrieval** *October 2025 - Present*
  Tools: Elasticsearch, Flask, Kibana, Logstash, Python
  ◦ Designed and implemented a multimodal search engine enabling image retrieval from text queries or similar images using a pre-trained VGG model for visual feature extraction. Integrated Elasticsearch, Logstash, and Kibana with a Flask-based API for real-time query processing and visualization.

- **Traffic Monitoring: mmWave RADAR and Camera Detection, Classification, and high-level fusion** *April 2025*
  Tools:Yolo8, KNN ,Python
  ◦ Develop a traffic monitoring system based on the Open Urban mmWave Radar and Camera Vehicle Classification Dataset. Apply feature extraction, clustering with DBSCAN, classification with KNN, and object detection with YOLO models. Implement high-level sensor fusion to enhance detection accuracy and system reliability.

- **AI-Based Project (EY Challenge)** *January - February, 2025*
  Tools: Python, Flask, geopandas, sklearn, numpy, matplotlib
  ◦ Developed an AI-driven solution for the EY Challenge, leveraging machine learning techniques to predict urban heat intensity in areas with the highest temperatures.

- **E-commerce Website Development** *January 2025*
  Tools:HTML, Css, Js, NodeJs, REST APIs
  ◦ Designed and developed a full-featured e-commerce website, implementing user authentication, secure login/logout functionality, product listings with search and filtering capabilities, and an intuitive user interface to enhance user experience.

SKILLS

- **Programming Languages:** Python, PHP, C, C++, Matlab, JavaScript
- **Frameworks & Libraries:** Symfony, Node.js, React.js, Flask, Spring Boot, React native
- **Databases:** MySQL, PostgreSQL, Oracle, Elasticsearch
- **DevOps & Tools:** Docker, CI/CD pipelines, REST APIs, Linux, Cisco Packet Tracer, AWS (S3, Lambda, SageMaker, Kinesis)
- **AI / Machine Learning:** Deep Learning, Computer Vision, YOLOv8, KNN, scikit-learn, TensorFlow, NLP, RAG
- **Other Tools & Technologies:** Git / GitHub, Illustrator
- **Languages:** English(Professional proficiency), French (Fluent), Arabic (Native), German (Beginner)

EXTRACURRICULAR ACTIVITIES

- **Sup'Com Junior Entreprise | IEEE Wie Affinity Group - Head of Communication** *01-09-2024 - 20-07-2025*
  -Managed media and design strategies for brand visibility.
  -Handled partnerships and client relations to expand collaborations.
- **IEEE Sup'Com – Media Manager of IndabaX2024** *01-09-2024 - 16-05-2024*
  -Developed and executed media strategies to maximize event exposure.
- **Pacte project - SOS** *01-01-2024 - 20-06-2024*
  -Participated in the SOS initiative to assist and give lessons to children at SOS villages..
- **Wiempower 2.0, Media and design manager** *2024*
- **Annual Supcom Forum, Media Committee Member** *2023*

CERTIFICATIONS

- **Toeic certificate** *Mai 2025*
- **Certificate for participating in EY AI-Based challenge** *April 2025*