

# Mohamed Helmi Lakhder

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linkedin.com/in/helmipl | Tunis, Tunisia | French, English, Arabic

## EDUCATION

- National Institute of Applied Science and Technology** Sept. 2024 – Present  
*ENGINEER'S DEGREE, ICT*
- Higher Institute of Information Technologies and Communications** Sept. 2021 – May 2024  
*B.S. IoT, Embedded Systems | GPA: 4.0/4.0*
- **Valedictorian** for the 2021/2022 and 2022/2023 Classes

## MAIN TECHNICAL SKILLS

- **Languages:** JavaScript, TypeScript, Python, C++
- **Technologies:** React.js, Next.js, Express.js, Django, FastAPI, LangGraph, Spring Boot, Flutter, Docker, NodeRed, Apache Airflow, Selenium

## EXPERIENCE

- Biolyt AI · Full Stack Data Engineer** Jul. 2025 – Aug. 2025  
*Summer Internship* Bengaluru South, Karnataka, India
- Gained a deep understanding of the healthcare business plan, including clinical trials, FDA processes, and biotech operations.
  - Contributed to the development of a multi-agent system using LangGraph to provide actionable clinical and regulatory insights.
  - Implemented React components for chat interfaces, tables, and interactive graphs.
  - Developed FastAPI backend to manage agent execution and data processing.
  - Managed a DAG using Apache Airflow to fetch and process clinical and regulatory data, applying Slowly Changing Dimension (SCD) techniques inside Docker containers.
  - **Keywords:** React, FastAPI, LangGraph, Apache Airflow, Docker, MongoDB, SCD
- Novencia Group · Full Stack Developer** Feb. 2024 – May 2024  
*End of Studies Internship* Montplaisir, 1073 Tunis
- Collaborated with a team of 4 to develop a SaaS solution for HR functionalities, supported by a back-office application to monitor client activities.
  - **Keywords:** Next.js, Express.js, Redux, MongoDB, Tailwind CSS
- MAE Assurances · Back-end Developer** Jul. 2023 – Aug. 2023  
*Summer Internship* Ariana, 1075 Tunis
- Created a platform to facilitate seamless interaction, collaboration, and transactions within the insurance domain.
  - **Keywords:** Face Recognition, Django, PostgreSQL, Bootstrap, Chart.js, Prism.js

## PROJECTS

- Classification of Cardiac Anomalies from ECG Signals** May. 2025
- Collaborated in a four-person team to build a machine learning system classifying cardiac anomalies from ECG signals.
  - Preprocessed ECG signals with bandpass and notch filtering, normalization, and extracted morphological/statistical features.
  - Trained and evaluated multiple ML models (Random Forest, SVM, KNN, Decision Tree) for accurate heartbeat classification.
  - Implemented an API for real-time predictions with FastAPI and delivered a user-friendly interface via Next.js frontend.
- HMKSocialHUB** Mar. 2023
- Built a social platform supporting user registration, profiles, follow/search/like interactions, and responsive UX using Django.
  - Implemented admin controls, PostgreSQL database, and Cloudinary media management for secure and scalable operations.