

# Mohamed Ouledali

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## Profile

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Engineering student with strong foundations in mathematics, physics, and analytical problem-solving. Skilled in software development, web technologies, and robotics systems, with growing expertise in civil engineering concepts. Actively involved in technical communities and seeking high-level opportunities in an international engineering environment.

## Education

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**National Engineering School of Sfax (ENIS)** Sep 2025 – Jun 2028  
*Engineering Degree in Civil Engineering* Sfax, Tunisia

**Preparatory Institute for Engineering Studies of Nabeul (IPEIN)** Sep 2023 – Jun 2025  
*Intensive Preparatory Cycle in Mathematics and Physics (CPGE-equivalent)* Nabeul, Tunisia

## Projects

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### Windloader Calculator (Python, FastAPI, Engineering Simulation) 🌐

- Developed a professional engineering platform for structural wind-load analysis according to Eurocode 1
- Built REST APIs using Python and FastAPI for automated structural calculations and validation
- Implemented dynamic 3D visualizations and automated PDF/Excel engineering reports
- Designed reliable testing infrastructure with full unit-test coverage for reliability and maintainability

### Village Under Attack (C++, SDL3, Game Systems) 🌐

- Developed a tactical tower-defense and survival game in C++ using SDL3 with real-time rendering systems
- Implemented intelligent AI pathfinding, combat logic, and dynamic resource-management mechanics
- Designed modular game architecture with optimized performance and interactive UI systems
- Built advanced gameplay systems including wave generation, enemy behaviors, and strategic defense mechanics

## Technical Skills

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**Programming:** Python, C / C++, JavaScript / TypeScript, Java, SQL, PHP

**Frontend Development:** React, Next.js, Tailwind CSS, HTML5, CSS3

**Backend & API Development:** Node.js, Express.js, Nestjs, Python (FastAPI), REST APIs

**Databases:** MongoDB, MySQL, SQLite, SQL, Redis, PostgreSQL, Database Schema Design

**Engineering Tools:** AutoCAD, MATLAB, Arch, Revit, Robot, Sketchup, Solidworks, Excel

**Robotics & Embedded Systems:** Arduino, ESP32, STM32, PWM control, PID control systems

**Tools & Operating Systems:** Git / GitHub, Linux (Ubuntu, Fedora, Kali), Windows, Figma

## Experience & Volunteering

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**IEEE RAS ENIS – Webmaster** Jan 2026 – Present

- Designed, developed, and maintained the official IEEE RAS ENIS website
- Supported the digital communication strategy of the robotics and automation community
- Collaborated with engineering students on technical and organizational initiatives

### IEEE Student Events Participation

- Active participant in IEEE-related technical workshops, seminars, and engineering talks
- Engaged in discussions on robotics, automation systems, and emerging engineering technologies
- Strengthened teamwork and problem-solving skills in collaborative technical environments

## Languages

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**Arabic:** Native **French:** Professional **English:** Professional/Technical **German:** Beginner (A1)