

# Ahmed BOUHLAL

## AI Engineer | ML Researcher | Embedded System Developer

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### SUMMARY

Self-driven AI student at EST Tétouan with hands-on experience in deep learning, Verilog design, and intelligent systems. Known for building neural optimizers, embedded ML hardware, and real-time AI tools. Passionate about combining AI theory with system-level engineering to solve impactful problems in automation, research, and smart devices.

### PROFESSIONAL EXPERIENCE

Jul 2025 – Present

#### AI intern

D3Soft intern, Tangier, Morocco

- Built 40+ modular AI tools using Python and LLaMA 3 (CLI + GUI based).
- Created WDW binary decoder and smart resume validator using AI.
- Developed WinDev Bug Detector (100k+ samples, DL-based).
- Designed adaptive Verilog regression model with dynamic learning rate.
- Built automation pipelines for KPI prediction and AI analysis.

#### Freelance AI Engineer | Developer

2023 – Present

- Built a real-time gaze & emotion detection system using MediaPipe + FER-2013.
- Engineered Physics Optimizer V4: a neural optimizer using momentum, forces, damping.
- Developed a 2.5D Python game engine with Bluetooth PvP and skill scripting.
- Created smart AI bug analyzers, KPI generators, and automation tools for small businesses.

### PROJECTS

- Physics Optimizer V4: Custom deep learning optimizer based on physical principles.
- AI Assistant CLI: 40+ skill modular AI assistant, supports ChatGPT, Ollama, search, system tools.
- Resume Validator: AI model + regex tool to validate WDW CV formats.
- 2.5D Game Engine: Python-based engine with pixel render and Bluetooth PvP.
- Emotion Tracker: Face & emotion ML system (TensorFlow, FER-2013).

### CORE COMPETENCIES

- AI Tool Development
- Research-Level Deep Learning Understanding
- Verilog & Embedded System Design
- Problem-Solving with AI + Hardware Integration
- Modular Architecture (CLI, GUI, AI assistants)
- Agile Team Collaboration & Technical Writing

### SOFT SKILLS

- Rapid Learning & Adaptability
- Independent Execution
- Creative AI Thinking
- Strategic Problem-Solving
- Discipline & Deep Focus

### EDUCATION

#### DUT in Artificial Intelligence

EST Tetouan, Morocco

2024 – 2026

### ACHIEVEMENTS

- Built 40+ AI tools in 1 month
- Created 100k+ labeled bug datasets
- AI intern of the month
- Verilog regression logic from scratch

### TECHNOLOGIES & PLATFORMS

- Python, Bash, Verilog, C
- TensorFlow, scikit-learn, OpenCV, MediaPipe, YOLOv8
- Git, Github, Docker, VSCode, Pop!\_OS
- Jupyter, Bash CLI, Modular GUI

### LANGUAGES

- Arabic (Native)
- English (Fluent)
- French (Advanced)