ismail ammar

fullstack developer

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PROFILE

Security-Oriented Full Stack Engineer Building scalable web applications with **React, Python, and C++**. Expert at bridging the gap between robust software architecture and offensive security to build hardened, production-ready systems

SKILLS

Languages: C, C++, Python, JavaScript, Shell (Bash/Zsh).

Offensive Security: Web Security, Vulnerability Triage, Recon Automation, DFIR (Digital Forensics & Incident Response).

Backend: Node.js, NestJS, FastAPI, Django, Express.

Cloud & Tools: AWS, Docker, Kubernetes, Git, GitHub Actions (CI/CD).

Mathematics: Linear Algebra, Complex Mathematics, Ray Tracing, Logic Gates.

Core Systems: Linux (Advanced), Networking Protocols, Unix API, POSIX Signals, Multithreading (pthreads).

Frontend: React, Next.js, TypeScript, React Native, Tailwind CSS, D3.js.

Databases: PostgreSQL, MongoDB, Redis.

Monitoring: Systems Monitoring, Real-time Telemetry, Incident-ready Runbooks.

CS Fundamentals: Data Structures, Complexity Analysis (Big O), Deadlock Prevention, State Machines.

PROFESSIONAL EXPERIENCE

Technical Analyst (Intern) | Maritime Sector 2020 – 2022
Royal Navy
Maintained technical compliance and documentation under international regulatory standards for maritime safety.

Navigation Systems Lead | Maritime Sector 2022 – 2024
Royal Navy
Directed mission-critical navigation systems, maintaining 99.9% operational uptime for real-time telemetry data in high-stakes environments.

Software Engineering Scholar 2024 – Present
1337 School (42 Network)
engineered low-level systems including a custom Unix shell, a 3D ray-tracing engine, full-stack projects and a multi-threaded web server from scratch in **C/C++**.

Board Member & Security Researcher | M4SEC Team 2024 – Present
M4SEC Team

- ***Led Morocco's #1 ranked CTF team*** (Global #135), securing 1st in CyberSphere and Top 5 in L3akCTF & RSTCON.
- ***Specialized in Web Security and DFIR***, developing technical playbooks for incident response and exploit development.

Full-Stack & Security Engineer | Consultant 2025 – Present
Freelance

- ***Developed and deployed responsive web applications*** using **React, TypeScript, and Node.js**, prioritizing observability and security-hardened defaults.

- ***Performed vulnerability triage and hardening reviews,*** delivering incident-ready runbooks for production environments facing real-world threat models.

CERTIFICATES

- Brevet Élémentaire en Navigation (B.E)
- High School Diploma
- Certificat Maritime Militaire (Military Maritime Qualification)
- Certificat de Spécialité Maritime (Specialized Technical Training)

PROJECTS

BioGuide | Full-Stack application
- Created a high-performance platform for visualizing biomedical data using ***React, Node.js, and D3.js***.
- Engineered a data engine for real-time visualization of PMC research corpora with advanced search tooling as part of the NASA space app hackathon .

portfolio
- high-performance, responsive web application built to showcase full-stack projects and cybersecurity achievements, designed with a focus on security best practices and optimized asset delivery.

React Chess Engine | Full-Stack application
- Integrated a strategic engine (~1400 ELO) into a ***React/TypeScript*** app using Minimax with Alpha-Beta pruning.
- Optimized real-time positional evaluation and game-state management for smooth performance.

Cloud_Wishes | CTF challenge
- Designed a multi-stage security challenge involving ***API exploitation***, broken access control, and logic flaws.
- Developed both the ***React*** frontend and ***Node.js*** backend to simulate real-world vulnerability scenarios.

Minishell
- Built a comprehensive Unix shell in **C** featuring an AST parser, process pipelining, and signal handling.
- Implemented a custom memory management system to ensure 100% leak-free command execution.

miniRT | RayTacing Engine
- Developed a CPU-driven ray tracing engine in **C** simulating light physics, reflections, and Phong shading.
- Engineered a custom 3D math library for vector operations and optimized ray-object intersection algorithms.

Wordle Clone
- A feature-rich Wordle implementation with daily challenges, persistent game state, and advanced letter-scoring algorithms.

LANG-ME
- A modern educational hub integrating external APIs for real-time dictionary lookups, book discovery, and curated learning resources.

Fract-ol
- A high-performance fractal rendering engine in C capable of visualizing infinite sets like Mandelbrot, Julia, and Tricorn in real-time.
- Implemented smooth mouse-centered zooming and optimized escape-time algorithms to maintain high frame rates during exploration

LANGUAGES

English ●●●●○ French ●●●●○

arabic ●●●●●

INTERESTS

cybersec: — Offensive Security: Active participation in global Capture The Flag (CTF) competitions, specifically targeting Web Exploitation and broken access control. **Vulnerability Research:** Passionate about discovering and documenting logic flaws and architectural weaknesses in modern web stacks. **Digital Forensics (DFIR):** Exploring incident response playbooks and forensic analysis of compromised systems. **Security Automation:** Developing custom scripts in Python and Go to automate reconnaissance and vulnerability scanning.