

Khaldi Mohamed

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PROFILE

Systems-aware Full Stack Developer (42 School student) with a first-principles approach to software engineering. Specialized in building high-performance systems (C/Unix) and scalable web applications (Node.js/React). Rapid learner with a deep interest in R&D and open-source ecosystems, transitioning from a self-taught background to the rigorous 1337 environment.

TECHNICAL SKILLS

Backend: Python, Node.js, Express, Hono, Deno.js, Ruby, MySQL, PostgreSQL

Frontend: React.js, JavaScript (ES6+), jQuery, HTML5, CSS3, Bootstrap

Systems: C, C++, Unix System Programming, Shell Scripting **DevOps:** Docker, Kubernetes, Git, GitHub, Webpack, Vite

Soft Skills: Algorithmic Thinking, Rapid Learning, Technical Documentation

KEY PROJECTS

Minishell

Developed a fully functional Unix shell from scratch, replicating core Bash behavior. Implemented a recursive descent parser and lexical analyzer for command tokenization. Managed process lifecycles, environment variables, pipes, redirections, and heredocs.

C, Unix System Programming, Lexical Analysis

URL Share App

Designed and built a social discovery platform for link sharing. Developed a secure RESTful API using Express.js for user authentication and content management. Implemented MVC pattern to ensure separation of concerns and scalability.

Node.js, Express.js, JavaScript, Bootstrap, REST API

Fractol

Developed a real-time fractal visualization engine (Mandelbrot, Julia sets). Optimized complex mathematical rendering using advanced algorithmic shortcuts. Implemented interactive features including infinite zoom and real-time parameter adjustments.

C, Graphics Programming, Optimization

Cub3D

Built a 3D game engine using ray-casting techniques, inspired by Wolfenstein 3D. Implemented collision detection, texture mapping, and perspective rendering in a low-level environment.

C, Ray-casting, Game Engine Development

EDUCATION

Software Engineering

UM6P - 1337 School (42 Network)

2024 - 2026 (Expected)

Full-time immersive program focused on peer-to-peer learning and project-based software development. Deep dive into algorithms, data structures, and computer architecture.

Full Stack Web Development

Self-Directed Training

2020 - 2024

FreeCodeCamp Certifications: JavaScript Algorithms & Data Structures, Responsive Web Design.

LANGUAGES

English: Intermediate (B2) **French:** Intermediate **Arabic:** Native