Hamza Kasbaoui

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Education

- **1337 School** — Martil, Morocco
  Student in Software Engineering — *2022 – Present*
- **Institut Spécialisé de Technologie Appliquée 2** — Settat, Morocco
  Diplome technicien spécialisé en développement informatique — *2018 – 2020*
- **Lyceé El Nasser** — Zemamra, Morocco
  Baccalaureate in Physical Sciences — *2016 – 2017*

Programming Skills

- **Languages**: C, C++, Python, HTML, CSS, JavaScript, TypeScript, JSON,PostgreSQL
- **Technologies and Frameworks**: Git/GitHub, Docker, Django, Django Rest Framework, React, Express, Tailwindcss

Experience

- **No Experience Yet**
  Present

Projects

- **ft transcendence** Developed a comprehensive full-stack real-time multiplayer game platform inspired by Pong. Integrated features such as OAuth2 for secure user authentication, Two-Factor Authentication (2FA) for enhanced security, and WebSocket-based real-time communication for chat and gameplay interactions. Implemented a friend management system, live notifications, and user profiles. Designed a scalable RESTful backend using Django and a dynamic frontend with Vanilla JavaScript, ensuring seamless user experience. Tackled challenges in handling real-time concurrency, secure data exchange, and responsive design.
- **WebServ** Engineered an HTTP web server from scratch in C++ to deepen understanding of web server internals. Implemented robust HTTP request and response handling, CGI execution for dynamic content, and custom error management. Built a scalable socket-based architecture using asynchronous I/O and concurrency to support multiple client connections simultaneously. Optimized performance and ensured compliance with HTTP/1.1 standards.
- **Inception** Designed and deployed a Dockerized virtualized infrastructure to simulate a multi-service environment. Set up and managed services like Nginx (for HTTP proxy), WordPress (CMS), and MariaDB (database) using Docker Compose. Configured custom Docker networks for inter-service communication and ensured secure access through SSL. Focused on scalability and reproducibility, making the setup suitable for real-world production environments.
- **Cub3d** Developed a 3D rendering engine in C to recreate the classic Wolfenstein 3D game. Implemented raycasting to simulate a 3D environment on a 2D plane, enabling users to navigate through a textured maze. Focused on low-level graphics programming and efficient memory management, enhancing understanding of how 3D games function at the engine level.