

## PROJECTS

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### FT Transcendence (Fastify, Node.js, TypeScript, Prisma, SQLite)

Aug 2025 - Oct 2025

Team Project

- **Full-Stack Web Application:** Contributed to a multiplayer Pong web application featuring user authentication, friend management, and real-time chat using **Fastify** and **Node.js** with **TypeScript**.
- **Backend Development & Leadership:** Led the backend development, splitting tasks, managing GitHub workflow, and ensuring smooth collaboration with the frontend team.
- **Database Management:** Modeled and managed data for users, friends, matches, and chat messages using **Prisma ORM** with **SQLite**.
- **Authentication & Security:** Implemented secure user authentication system, including session handling, OAuth2 support, and two-factor authentication (2FA).
- **Team Collaboration:** Worked closely with team members to integrate backend services with frontend, maintaining code quality and project organization.

### Inception (Docker, Makefile, Docker Compose, Bash scripting)

June 2025 - July 2025

Solo Project

- **Containerization with Docker:** Containerized the application using Docker, ensuring a consistent and reproducible environment for development, testing, and deployment across different systems.
- **Docker Compose:** Utilized Docker Compose to manage multi-container applications, simplifying the orchestration of different services and ensuring seamless communication between containers.
- **Automation with Bash Scripts:** Developed Bash scripts to automate container setup, configuration, and deployment tasks, improving productivity and reducing manual errors.

### HTTP WebServer (C++, Makefile)

Jan 2025 - April 2025

Team Project

- **HTTP Request Parsing:** Implemented full HTTP request parsing, including headers, methods (GET, POST, etc.), and body content, ensuring accurate request handling for the server.
- **Configuration File Parsing:** Developed a parser for the server configuration file with syntax similar to Nginx, enabling flexible and dynamic server setup.
- **Session Management:** Handled sessions and state tracking, allowing persistent user data across multiple requests and improving server functionality.
- **CGI Scripting:** Wrote CGI scripts in Python and Bash to generate dynamic content in response to client requests.
- **Networking Fundamentals:** Gained practical experience with sockets and basic network programming in C/C++, enhancing understanding of low-level server operations.

## EDUCATION

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### 1337 Coding School, UM6P

Nov 2023 - Oct 2025

42 Common Core — Systems & Backend

### Faculty of Applied Sciences Ait Melloul, Ibn Zohr

Sep 2021 - Jul 2023

Physics & Chemistry

## TECHNICAL SKILLS

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- **Core Languages:** C, C++, Go, TypeScript
- **Backend Development:** Node.js (Fastify, Express, Hono), REST APIs, Authentication (OAuth2, 2FA)
- **Systems & Networking:** Sockets, HTTP Protocol, Nginx-style Configuration, Bash
- **Databases:** MongoDB, SQLite, PostgreSQL (Prisma ORM)
- **DevOps & Tooling:** Docker, Docker Compose, Git, Make/CMake