

Summary

Software Engineering student at 1337 (42 Network) with strong skills in systems programming and backend development. Experienced in C, C++, Java, and TypeScript, with projects ranging from Unix tools and real-time servers to containerized infrastructures and RESTful APIs. Passionate about low-level systems, problem-solving, and building reliable software, with a strong desire to learn and contribute in a professional engineering environment.

Projects

- **ft_transcendence** 🔗 Full-Stack Web Application
TypeScript, NestJS, React, WebSocket, Docker, PostgreSQL *42 Common Core*
 - Built a full-stack web application featuring a real-time multiplayer Pong game with WebSocket communication.
 - Implemented user authentication, friend system, chat channels, direct messages, and game matchmaking.
 - Containerized the entire infrastructure with Docker Compose, including frontend, backend, and database services.
- **minishell** 🔗 Unix Shell
C, Unix, Processes, Signals, Parsing *42 Common Core*
 - Developed a fully functional Unix shell from scratch supporting pipes, redirections, environment variables, and built-in commands.
 - Implemented process management with fork/exec, signal handling (Ctrl+C, Ctrl+D, Ctrl+\), and heredoc support.
 - Built a robust tokenizer and parser to handle complex command-line expressions with proper quoting rules.
- **ft_irc** 🔗 IRC Chat Server
C++, Sockets, TCP/IP, IRC Protocol *42 Common Core*
 - Built a real-time IRC chat server in C++98 supporting multiple clients over TCP/IP with non-blocking I/O via poll().
 - Implemented operator commands including KICK, INVITE, TOPIC, and MODE with proper permission management.
 - Handled channel management, private messaging, authentication, and full compliance with the IRC protocol.
- **Inception** 🔗 Docker Infrastructure Project
Docker, Docker Compose, NGINX, WordPress, MariaDB, Linux *42 Common Core*
 - Built a containerized web infrastructure using Docker Compose with separate services for NGINX, WordPress, and MariaDB.
 - Configured custom Dockerfiles, volumes, networks, environment variables, TLS access, and service dependencies on a Linux virtual machine.

Education

- **UM6P/1337 – 42 Network** 🔗 Ben Guerir, Morocco
Computer Software Engineering; Common Core *2024 – 2027*

Programming Skills

- **Languages:** C, C++, Java, TypeScript, Shell
- **Technologies:** Docker, Docker Compose, Git, GitHub, Linux, Makefile, REST APIs, WebSocket, NestJS, React
- **Databases:** PostgreSQL, MySQL, SQLite
- **Concepts:** Unix processes, sockets, signals, parsing, OOP, network programming, IRC protocol, containerization
- **Spoken Languages:** Arabic (native), English (professional working proficiency)