MAHDI CHERAGHALI

Software Engineer

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Date of Birth: Feb 1990 | Iran
Location: Berlin

EDUCATION

Computer Science | 42 Berlin   04.2024 – Current (Expected 2025)

- Intensive project-based / system programming /algorithms / C, C++ / Networking / OOP.

Construction & Real Estate Management M.Eng. M.Sc.   09.2022 – 09.2024

HTW Berlin & Metropolia UAS, Helsinki

- Project Management & Monitoring / LCA/ LCC / BIM / Feasibility Study / Tendering

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PROJECTS AND EXPERIENCES

- **Minishell** [GitHub]: Developed a UNIX shell in C supporting command execution, child processes, pipes, builtin commands, signal handling, and parsing (Group project).
- **Push_swap** [GitHub]: Developed an efficient sorting algorithm in C, focused on minimizing operations and optimizing performance.
- **Cub3D** [GitHub]: Developed a basic 3D game environment in C using ray-casting techniques and the X11 graphics library (Group project).
- **Philosophers** [GitHub]: Implemented a multithreaded solution to the Dining Philosophers problem using pthreads in C.
- **NetPractice**: Built networking knowledge by working with TCP/IP (IPv4), subnetting, and routing concepts.
- **Inception** [GitHub]: Engineered a multi-service WordPress infrastructure using Docker Compose with NGINX, MariaDB, TLS encryption, and automated setup via WP-CLI on Debian.
- **Webserv**: Developed a fully functional HTTP server in C++, supporting CGI, static file serving, chunked transfer encoding, and configuration parsing (Group project / In progress).

TECHNICAL SKILLS

- **Languages:** C, C++, Bash, Shell
- **Tools & Debugging:** Git, GitHub, Makefiles, GDB, LLDB, Valgrind, Sanitizers, Boost C++, Visual C++
- **Core Concepts:** Algorithms, Data Structures, Code Optimization, Memory Management
- **Systems & Networking:** Linux (Ubuntu/macOS), System Calls, TCP/IP (IPv4), Network Debugging, Docker, Kubernetes
- **Software Engineering:** Modular Programming, Version Control, Code Review, Team Collaboration

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Soft Skills: peer-to-peer learning, self-learning, adaptability, problem-solving, teamwork, independent work, analytical thinking.

Languages: English– Fluent / Persian (Farsi) – Native