

# BOUTUIL Mohamed

Computer Science Student — Aspiring Software Engineer  
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## OBJECTIVE

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Computer Science student at 1337 Coding School seeking software engineering internship to apply expertise in Python, Django, React.js, and C++. Strong background in algorithms, data structures, and system programming with Unix/Linux experience. Seeking to leverage technical skills and problem-solving abilities in a collaborative software engineering team.

## EDUCATION

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| <b>1337 Coding School (42 Network)</b><br><i>Computer Science &amp; Software Engineering</i>   | 2021 – Present<br><i>Morocco</i> |
| <ul style="list-style-type: none"><li>– Completed rigorous peer-to-peer curriculum emphasizing practical software development, algorithms, and system programming.</li><li>– Achieved 100% completion of Common Core Program covering C/C++, web development, DevOps, and computer graphics.</li><li>– Participated in collaborative projects with focus on code quality and best practices.</li></ul> |                                  |

## TECHNICAL SKILLS

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**Programming Languages:** Python, C++, C, JavaScript, Bash.

**Web Technologies:** Django, Django REST Framework, React.js, HTML5, CSS3, WebSockets, REST APIs, JSON

**DevOps & Cloud:** Docker, Docker-Compose, Linux Administration

**System Programming:** Unix/Linux, Multithreading, Network Programming, TCP/UDP, Socket Programming

**Development Tools:** Git, GitHub, Test-Driven Development, Code Review, Debugging

**Monitoring & Analytics:** Grafana, ELK Stack (Elasticsearch, Logstash, Kibana), Performance Monitoring

## SOFT SKILLS & STRENGTHS

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- Strong problem-solving and analytical thinking.
- Effective collaboration and peer-to-peer learning.
- Agile mindset with adaptability to new technologies.
- Clear communication and ability to document and present complex ideas.
- Self-motivated and proactive in tackling challenges.

## ACADEMIC PROJECTS

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**ft\_transcendence - Multiplayer Gaming Platform** | *Django, React.js, WebSockets, Docker, PostgreSQL*

- Architected real-time multiplayer Pong game platform supporting 100+ concurrent players with live chat and tournaments.
- Implemented WebSocket-based communication using Django Channels.
- Built responsive React.js frontend with Vite bundling, with cross-browser compatibility.

**High-Performance IRC Server** | *C++, Socket Programming, kqueue, Networking*

- Developed RFC-compliant IRC server handling 200+ simultaneous connections with event-driven architecture.
- Implemented channel management, user authentication, and command parsing with 99.9% message delivery rate.
- Optimized performance using kqueue for I/O multiplexing and applied OOP design patterns for maintainability.

**Container Orchestration Infrastructure** | *Docker, Nginx, MariaDB, DevOps*

- Designed containerized web services infrastructure using Docker-Compose for WordPress hosting environment.
- Configured Nginx load balancing, MariaDB clustering, Redis caching, and automated deployment scripts.

**Minishell** | *C, Unix, System Programming*

- Developed a custom Unix-like shell with support for pipelines, redirections, and built-in commands.
- Implemented robust process execution, signal handling, and memory management with zero leaks.

**Cub3D - 3D Raycasting Engine** | *C, Graphics Programming, Algorithms*

- Created a Wolfenstein 3D-inspired raycasting engine with texture mapping and collision detection.
- Achieved smooth 60fps rendering while optimizing performance for real-time interaction.

## LANGUAGES

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**Arabic:** Native | **English:** Professional | **French:** Professional