

Javier Núñez Gallego-Albertos

C++ SYSTEMS ENGINEERING INTERN · NETWORK PROGRAMMING

Valencia, Spain

☎ (+34) 684321357 | ✉ javiernunezgallegoalbertos@gmail.com | 🏠 eph.shardian.com | 🗣 Jotanune | 🌐 javier-nunez-gallego-albertos

Summary

Final-year Computer Engineering student passionate about systems programming, networking, and distributed architectures. Proven experience building high-performance, low-level software (EphemeralNet P2P daemon). Proficient in modern C++, Python, and backend technologies. Excellence Scholarship recipient.

Education

Universitat de València (UV)

Valencia, Spain

BACHELOR'S DEGREE IN COMPUTER ENGINEERING

Sep. 2022 - Present

- **Operating Systems:** Implemented a custom process scheduler and memory allocator in C to understand kernel-space resource management.
- **Distributed Systems:** Analyzed consensus algorithms (Paxos/Raft) and consistency models in distributed databases.
- **Computer Networks:** Developed raw socket applications to manipulate TCP/IP headers and manage congestion control manually.
- **Relevant Coursework:** Data Structures & Algorithms, Database Systems, Software Engineering, Low-Level Programming.

Engineering Experience

EphemeralNet Project

Remote

LEAD SYSTEMS ENGINEER (OPEN SOURCE)

Jan. 2025 - Present

- Architected a high-performance P2P infrastructure daemon in **C++20**, implementing a custom application-layer protocol over TCP/IP for robust connectivity.
- Engineered a zero-copy I/O subsystem using Linux **epoll** (Edge-Triggered) and macOS **kqueue**, handling thousands of concurrent non-blocking events with minimal context switching.
- Designed a thread-safe concurrency model using a worker pool and **std::shared_mutex** to prevent writer starvation in read-heavy workloads.
- Implemented a custom Kademlia **DHT** for decentralized peer discovery, featuring cryptographic TTL enforcement.
- Established **CI/CD pipelines** and wrote comprehensive Unit Tests to ensure memory safety and stability.
- Leveraged **C++20 Concepts** and template metaprogramming to enforce type safety at compile-time for packet serialization logic, reducing runtime overhead.

Capgemini

Valencia, Spain

SOFTWARE ENGINEERING INTERN

Oct. 2025 - Present

- Collaborating in an Agile environment to maintain enterprise-grade backend microservices, participating in daily stand-ups and code reviews.
- Optimizing legacy Java/Spring Boot codebases to improve performance and resolving critical production bugs.

Skills

Languages C++20 (Advanced), C, Python, Bash, SQL, Java

Core Concepts Linux System Calls (epoll/kqueue), Network Programming (TCP/UDP), Multithreading & Concurrency, Memory Management, Distributed Systems

Tools CMake, GDB, Valgrind, Git, Docker, Linux (Ubuntu/Debian), GitHub Actions

Spoken Languages Spanish (Native), English (Professional Proficiency), Catalan (Bilingual)

Honors & Awards

2024-2025 **Academic Excellence Scholarship**, Ministry of Education of Spain

Spain