

PROFESSIONAL SUMMARY

Passionate third-year Informatics Engineering student with deep interest in low-level programming, embedded systems, and computer architecture. Experienced in systems programming, IoT development, and hardware-software integration. Enjoys tackling complex technical challenges and learning from talented peers in collaborative environments. Proven leadership abilities through selection for Spain's top 200 pre-university students program. Seeking opportunities to work on system-level software and embedded applications.

EDUCATION

- **University of the Basque Country (UPV/EHU)** Donostia, Spain
B.Sc. in Informatics Engineering; Third-year student (Expected graduation: Jul 2027) Sep 2023 – Present
 - **Technical Challenges & Collaboration:** Participated in the ICPC Southwestern Europe Regional Contest (SWERC), enjoying the opportunity to tackle complex algorithmic problems, collaborate with talented peers, and learn advanced problem-solving techniques in a challenging team environment.
- **Aldapeta María Ikastetxea** Donostia, Spain
High School Diploma in Science, with Honors (9.95/10.0) Sep 2021 – Jul 2023

SUPPLEMENTARY EDUCATION

- **Francisco de Vitoria University** Madrid, Spain
Program Becas Europa (Europe Scholarships) XVIII Mar 2022 – Feb 2023
 - **Leadership Development:** Selected as one of the top 200 pre-university students in Spain, engaging in an intensive program designed to develop leadership skills through academic, political, and cultural experiences.
 - **Academic and Cultural Insights:** Attended conferences and met influential figures in Spain from various sectors, broadening academic and cultural horizons.
 - **Networking:** Connected with future leaders in Spain, expanding a network of talented and driven young professionals.
- **Huerta del Rey Centre for Psychology and Education** Valladolid, Spain
Summer Courses, recognized by the European Talent Support Network (ETSN) Jul 2011 – Jul 2023
 - **Debates:** Developed critical thinking, persuasive communication, and adaptability through structured debates and public speaking.
 - **Robotics:** Acquired practical experience in programming, strengthened problem-solving skills, and fostered creativity through designing and optimizing robotic systems.

TECHNICAL PROJECTS

- **Nintendo DS Game Development:** Engineered a complete Nintendo DS game using C and devkitPro toolchain. Implemented direct hardware manipulation, custom graphics rendering, sound processing, and dual-screen coordination. Gained deep expertise in embedded systems programming, memory-constrained environments, and hardware-specific optimizations.
- **Cache Memory Simulator:** Developed a comprehensive terminal-based Java application simulating L1 cache behavior with multiple replacement policies (LRU, FIFO, Random). Implemented detailed cache statistics tracking and performance analysis, demonstrating deep understanding of computer architecture, memory hierarchies, and system-level optimization.
- **Smart Home IoT Platform:** Designed and implemented an end-to-end home automation ecosystem using MQTT, wireless sensors, and microcontrollers. Developed low-level firmware for sensor nodes, implemented custom communication protocols, and integrated multiple hardware interfaces (WiFi, Zigbee, Z-Wave) for seamless device communication.
- **Overnote - Software Engineering Project:** Collaborated in a 4-member team ("Stack Underflow") to develop a comprehensive multiplatform note-taking application using JavaFX and Maven. Led implementation of core features including user authentication with BCrypt password hashing and rich text editing with HTML formatting. Coordinated team efforts through structured sprints, conducting regular code reviews and pair programming sessions. Implemented AI-powered content generation (Google Gemini integration), multilingual support (i18n), and full CRUD operations with data persistence. Applied agile methodologies including use-case modeling, sequence diagrams, and iterative development to deliver a fully functional application through collaborative development.

EXPERIENCE

- **Polymat** Donostia, Spain
Research intern *Jun 2022 – Aug 2022*
 - **Laboratory Protocols:** Gained expertise in laboratory protocols, ensuring accurate and efficient experimental procedures.
 - **Research Documentation:** Thoroughly documented research processes in lab notebooks, following best practices for scientific record-keeping and ensuring reproducibility.

TECHNICAL SKILLS

- **Systems Programming:** C, C++, Assembly (basic), Shell/Bash, Java, SQL, Python (basic)
- **Low-Level Technologies:** Embedded Systems, Microcontrollers, Memory Management, Hardware Interfaces
- **Development Tools:** Git, GCC/Clang, OpenMP, Pthreads, Docker, Linux/Unix, devkitPro
- **Specialized Areas:** Computer Architecture, IoT Development, Firmware Programming, System Optimization
- **Hardware & Protocols:** MQTT, Zigbee, Z-Wave, SPI, I2C, UART, Wireless Communication

LANGUAGES

English: C2 (Proficiency) **Spanish:** Native **French:** B2 (Intermediate) **Basque:** Native

INTERESTS & ACTIVITIES

- **Technical Interests:** Embedded systems, computer architecture, firmware development, IoT platforms, cybersecurity
- **Personal Activities:** Hiking, volleyball, reading, music, traveling