

EXPERIENCE

Full-stack Software Engineer

Mediapro Group - AutomaticTV R&D dept.

Oct 2022 — Present

Barcelona, Spain

- Led the new front-end team and scaled it with 2 new hires.
- Developed and shipped 4 high performance **React/NextJS** projects: Camera calibration, scorebug controller, OTT platform, corporate website.
- Built a framework agnostic design system with **Web Components & Storybook**.
- Worked on a **micro-frontend** PoC with Module Federation and SingleSPA.
- Implemented a HP timer with Linux kernel's **monotonic clock** with **vDSO** and **pub-sub MQ** for sports' scorebugs. Reduction in clocks skews (from 2% to 0%)
- Integrated **computer graphics** algorithms (Digital Differential Analyzer, Bresenham, matrices & vectors operations) to provide camera calibration functionalities for the users.
- Implemented APIs, edge services and enhanced performance with Server Sent Events (SSE).
- Collaborated closely across product, design, and other engineering (Performance, QA, support) teams.

Advanced OS and Distributed Systems Lecturer

La Salle URL Engineering dept.

Feb 2023 — Present

Barcelona, Spain

- Engaged over **300** undergraduate students with comprehensive and engaging lectures that effectively conveyed complex technical concepts on **OS Memory management**, **File systems**, and **Distributed Systems**.
 - **AOS**: Deep-dive into paging, segmentation, kernel page table isolation (KPTI), and cache locality optimization techniques.
 - **DS**: Thorough exploration of happens-before model, logical clocks, mutual exclusion protocols, remote procedure calls (RPCs), distributed algorithms, and consistency and replication models.
- Provided student body with counsel and direct supervision in laboratory work and issues with coursework
- Played a pivotal role in shaping the learning experience of numerous undergraduate students by actively collaborating with university duties since 2021 as a TA.

Project lead / Research of Moodle Learning Analytics

GRETEL research group - La Salle URL

Sep 2021 — May 2023

Barcelona, Spain

- Architected **MLA (Moodle Learning Analytics)** tool and published **2 papers** for LASI and JICV conferences.
- Programmed a desktop application with support for 3 platforms that analyses Moodle generated logs.
- Built over 10 different meaningful visualization widgets (charts, graphs and tables) to portray the resulting data which improved scholars' data literacy proficiency by 10%.
- Adopted by 4 Spanish universities and schools (La Salle, UPC, URV, Euskadi) academic staff to comprehend and understand students' behaviour. Increased students overall assessment accuracy.

PROJECTS

Conference Certificate Generator

European TEEM Conference

Oct 2021 — May 2022

Barcelona, Spain

- Spotted breaking dependencies, revamped and improved Django pdf form filler an **open-source project**. Resulting in a generation of **300+ certificates** for the European TEEM conference scientific committee and the recognition from Ph.D. Juan Cruz Benito, a national awarded computer scientist.
- Implemented a missing mailing automation feature for 100% attendees coverage.

Senior Thesis - Heterogeneous Computing Farm: Yako

La Salle URL

Oct 2021 — May 2022

Barcelona, Spain

- Engineered the **Yako** orchestrator, that determines the viability and handles the deployment of computing services into a multi-layered distributed heterogeneous environment with support for traditional and IoT computing nodes via **gRPC** and **MQTT** protocols.
- Awarded with an outstanding score of 10 from a panel of 4 professors.
- Serves as the foundation of 4 IoT R&D projects at La Salle IoTICAT (IoT Institute of Catalonia).

EDUCATION

Bachelor of Science in Computer Science, La Salle URL

Sep 2017 — May 2022

SKILLS

Programming Languages

C, Java, Go, JavaScript, Python, SQL(PostgreSQL, MySQL), NoSQL(Cassandra, MongoDB)

Tools, Frameworks and Technologies

Vue/Nuxt, React/Next, Electron, Unix/Linux, Git, Shell scripting

Languages

English, Spanish, Catalan, Cantonese (speaking)