Julia Serrano Arrese

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WORK EXPERIENCE

Thermo Fisher Scientific
Software Engineer September 2024 – Present

- Contributed to a laboratory management system (LIMS) product, **building and enhancing features** for **pharmaceutical clients**. This work **improved** their **productivity** and **data management** through automation and centralized data access.

- **Expanded** the **product's global reach** by **updating** the platform's **date and time handling**. **Migrated** the system from a US-centric format **to an international one that supports all timezones**, ensuring accurate date-time display and a **localized formatting** for a worldwide client base.

- Improved **engineering team efficiency** by **creating internal scripts** and **clear documentation**, which optimized developer workflows and accelerated the onboarding process for new hires.

Tech Stack: React, Javascript, Docker, C#, .NET, PostgreSQL, Azure, Unit Testing (Jest), Git

Ericsson
Software Engineer July 2023 - July 2024

- **Implemented** a Go library to replace a legacy **Kafka consumer**, **integrating** it into an existing **microservice** to **improve** data **communication** in a critical 5G infrastructure. By leveraging a **concurrent design**, the new library achieved a **maximum throughput of 10,819 messages per minute** (under a 100k total message load), **outperforming** the legacy client's 10,183 messages per minute **in multi-topic scenarios**.

- **Prevented data loss and duplication** upon service recovery by **implementing** a robust **offset-retrieval mechanism** and a standardized consumer group naming convention. This new approach **optimized resource consumption** by preventing the creation of idle consumer groups after service failures and ensured the system seamlessly resumed consumption from where it left off.

- **Adopted security measures** by adding **certificate rotation** to pause and resume data consumption **preventing data breaches** and **implemented** an **exponential backoff retry strategy** to **prevent system overload** during decryption failures.

Tech Stack: Go, Apache Kafka, Docker, Kubernetes, Prometheus, Grafana, Git

EDUCATION

Universidad Politécnica de Madrid Madrid, Spain
Bachelor of Engineering - BE, Computer Engineering September 2020 - June 2024

PROJECT EXPERIENCE

Scraping Real Estate Properties Python, SQLite, Flask, HTML, CSS

- Developed a web scraping tool to **provide a competitive advantage in the real estate market**. The scraper **gathered** property listings and **critical insights**—such as time on market and ownership details—that were not publicly available on the Fotocasa platform, enabling a real estate agent to filter for high-value leads.

- Transformed raw data for display in a simple web interface, enabling users to analyze property listings.

Social Network RESTful Service Java, JAX-RS, Tomcat, REST, JSON/XML

- Designed a RESTful **API for a simplified social network** service emulating platforms like Facebook.

- Implemented operations for a RESTful API using Eclipse and Tomcat, integrating a robust SQL database for enhanced data management and optimized querying.

- Documented the API using Swagger to **provide an interactive interface for real-time testing** and to ensure clear, structured API endpoints for future client-side development.

SKILLS

Skills: Backend (Java, Python, Go, C, C#) | Frontend (React, JavaScript, HTML, CSS) | DevOps & Tools (Docker, Kubernetes, Git) | Databases (PostgreSQL, MySQL, SQLite) | Cloud (AWS - EC2, RDS, S3, VPC, ELB)