Fernando Martínez

Software engineer

Github LinkedIn rfernandomartinez@gmail.com
fernandomartinez.dev

Profile

Software Engineer with focus on backend, database and distributed systems. Experienced in Java and Spring Boot development. Passionate about clean architecture, scalability, and systems that combine consistency with performance. Known for autonomy, clarity in communication, and technical rigor within multidisciplinary teams.

Experience

Universidad Autónoma de Chile — June 2024 – Present

Fullstack Developer

Development and implementation of an institutional platform for academic management, budget planning, and OLAP analytics

- Developed an institutional platform using Java/Spring Boot for the backend, implementing microservices with REST APIs and a hexagonal architecture
- Optimized native queries in JPA to improve data service performance, using Hibernate for persistence management
- Designed and implemented stored procedures and views in Oracle for efficient data consumption
- Generated dynamic reports using JasperReports, extracting data directly from the database
- Built frontend components with Next.js, React, and TypeScript, integrating backend services and ensuring a dynamic, responsive user experience

Universidad de La Frontera, Facultad de Medicina — January 2022 – February 2023

Backend Developer

Development of a prototype of a virtual clinical simulator with respiratory distress in neonatology

- REST API development with Java / Spring Boot using Spring Data REST, JPA and SpringSecurity
- PostgreSQL database structure and design
- Generation of software documentation

Universidad de La Frontera — August 2022 – December 2023

Data Engineering Assistant

Teaching assistant for data engineering.

- Implementation of prediction models with classification algorithms, etc.
  Using Python, R, scikit-learn.

Education

Universidad de La Frontera — March 2019 - March 2024

Bachelor's in Computer Engineering

Skills

Lenguajes: Java, Python, Dart, JavaScript/TypeScript, SQL
Frameworks: Spring, React, Node.js, Flask
DevOps: Docker, Kubernetes (AKS), Helm, Terraform, GitHub Actions, GitLab CI
Databases: PostgreSQL, Oracle, MySQL, MongoDB
Others: Git, Gitflow, Bash, Linux

Projects

Metadata Store on FoundationDB + MinIO 2024

ACID KV-backed Metadata Layer for Object Storage

Design and implementation of a metadata layer built on FoundationDB to orchestrate object storage in MinIO, decoupling large-scale binary data from the transactional control plane.

- Modeled hierarchical metadata (buckets, objects, versions) in FoundationDB's ordered keyspace for efficient range reads and listings.
- Integrated MinIO as the blob backend, storing only consistent catalog data in FoundationDB.
- Leveraged FoundationDB's ACID transactions to ensure atomicity and strong consistency for object creation, updates, and secondary index maintenance.
- Architecture inspired by the "composable blob store" pattern, as detailed in the accompanying technical blog post.

Code on GitHub — Blog post

Java Write-Ahead Log (java-wal) 2024

Durable Append-Only Log for Storage Prototypes

Lightweight write-ahead log built in Java for sequential persistence and data integrity testing in storage and distributed systems.

- Implements an append-only write path with CRC validation to ensure record integrity.
- Supports buffered writes, page flushing, and optional durability through `fsync`.
- Provides an iterator-based reader for replaying and validating stored entries.
- Designed as a foundation for experimenting with recovery and transactional storage concepts.

Code on GitHub