Jorge **Tito**

Software Engineer · Data Analytics Engineer (Junior)

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Summary

Data-oriented Software Engineer with a strong interest in Data Analytics and Data Engineering, experienced in working with structured data, SQL-based analysis, and cloud-native data pipelines. My background includes designing event-driven systems, processing and analyzing data using AWS serverless services, and managing datasets for both real-time and offline analytics.

I have hands-on experience building Fog–Cloud architectures, executing analytical queries with SQL (Amazon Athena), and organizing data for traceability, metrics, and alerting. Additionally, my academic and project experience in machine learning and data-driven systems strengthens my ability to understand data end-to-end, from ingestion and processing to analysis and insight generation.

Projects

Epileptic Seizure Detection using Deep Learning and adversarial learning on Electroencefalograma(EEG)(Tesis) *2025*

- Developed a deep learning system for detecting epileptic seizures from EEG signals.
- Implemented and compared **CNN**, **Transformer** architectures, and **adversarial learning** techniques.
- Performed data preprocessing, feature extraction, and model evaluation on EEG datasets.
- Analyzed model performance using accuracy, precision, recall, and F1-score metrics.
- Built the experimentation pipeline using **Python** and deep learning frameworks.

Real-Time EEG Event Analytics Pipeline(Fog–Cloud Architecture) *2025*

- Designed and implemented a Fog–Cloud architecture for real-time (simulated) EEG event processing and early detection of suspicious seizure sessions.
- Performed near-source processing using **Fog Computing** to reduce latency and generate preliminary event inference.
- Built an event-driven data pipeline using **Amazon Kinesis Data Streams** and **AWS Lambda**.
- Stored and managed historical EEG event data in **Amazon S3** for offline analytics.
- Cataloged datasets using **AWS Glue Data Catalog** and executed analytical queries with **Amazon Athena (SQL)**.
- Persisted session state and metadata in **Amazon DynamoDB**.
- Evaluated clinical thresholds and triggered automated alerts via **Amazon SNS**.
- Designed the system focusing on scalability, cost efficiency, low latency, and data traceability.

Math4Fun *2024*

- Developed an educational VR game using **Unity** to teach 8-year-old children basic math operations in an interactive and immersive way.
- Designed engaging 3D environments and interactive elements to enhance the learning experience.
- Implemented support for **VR headsets**, providing a hands-on approach to reinforce math concepts.
- Programmed core game mechanics using **C#** and Unity's physics engine.
- Hosted the project on GitHub: Math4Fun Repository.

Products REST API 1 *2023*

- Developed a complete **REST API** for product management using **Node.js** and **Express**.
- Designed and implemented a **PostgreSQL** database schema to efficiently store product information.
- Created endpoints for CRUD operations (Create, Read, Update, Delete) with proper request validation and error handling.

Products REST API 2 *2023*

- Developed a complete **REST API** for product management using **Node.js** and **Express**.
- Implemented a **MongoDB** database to store product information efficiently.
- Designed endpoints for CRUD operations (Create, Read, Update, Delete) with request validation and error handling.

Sales Analytics with SQL *2022*

- Performed advanced SQL analysis using **PostgreSQL** on a sales dataset.
- Created complex queries with **JOINs, CTEs, window functions, and aggregations**.
- Generated business KPIs such as monthly revenue, top-selling products, and growth trends.
- Project available on GitHub.

Liquor Store Web System *2022*

- Developed a web system for selling liquor, ensuring access for users over 18 years old.
- Implemented the backend using **Spring Boot** and **Thymeleaf** for dynamic web rendering.
- Designed a product catalog with detailed descriptions, images, and third-party payment integration.
- Integrated multiple shipping methods to enhance user experience and streamline logistics.

Regular Expression to DFA Minimization Tool *2021*

- Developed a graphical application using **Qt** and **C++** for converting regular expressions into minimized deterministic finite automata (DFA).
- Designed an intuitive GUI to visualize the transformation process from regular expressions to minimized DFAs.
- Validated the correctness of the generated automata through multiple test cases.

Skills

Programming C++, C, C#, Java, Python, JavaScript
DevOps Docker, Kubernetes, GitHub Actios
Cloud Amazon Kinesis, Amazon S3, Amazon Lambda , Amazon DynamoDB, Amazon Glue, Amazon SNS, Amazon Athena
Databases PostgreSQL, MySQL, MariaDB, MongoDB, SQL (joins, subqueries, indexes, views)
Data & BI Power BI (learning), Data modeling basics, KPIs
Backend Express, Flask, Spring Boot, REST, DJango
Frontend HTML, CSS, JS, React, Bootstrap, Tailwind CSS

Languages

Spanish Native proficiency
English Elementary proficiency
Portuguese Elementary proficiency

Education

National University of San Agustin *Arequipa, Perú*
B.S. in Computer Science and Mathematics *Mar. 2020 - Present*