

Jorge Julián Acero Lomelí

Senior Software Engineer

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PROFILE

Results-driven Senior Software Engineer with 7 years of experience architecting highly scalable, real-time systems, including automated earthquake alerts supporting 2 million users and digital surgical platforms for Johnson & Johnson. Proven expertise in AWS, TypeScript, React, and modern cloud architectures, with a track record of delivering innovative solutions such as AI-driven IoT troubleshooting, the world's first real-time microquake detection system, Kafka-based medical video processing, and a 3D lung model viewer for surgical planning with VTK.js.

EDUCATION

Universidad Politécnica de Aguascalientes
Bachelor in Systems Engineering.

Sep 2016 - Apr 2020
Aguascalientes, México.

EXPERIENCE

Senior Software Engineer - Full Time

Mar 2026 - Present
Aguascalientes, México.

EPAM Systems

- Add support for bronchoscopy and urology procedures on Johnson & Johnson's Polyphonic app.
- Implement a Kafka event-processing microservice to manage videos across multiple procedures.
- Create a 3D model viewer with VTK.js that reads VTP files, allowing doctors to visualize a patient's lungs and the planned surgical path with its target.
- Technologies used: Next.js, Nest.js, Node.js, React, TypeORM, PostgreSQL, Kafka, Kiro, and AWS.

Full Stack Software Engineer - Full Time

Nov 2021 - Mar 2026
Aguascalientes, México.

SkyAlert

- Create a system that automatically generates earthquake reports in seconds, which sends valuable data for the alerts team and the public. This system successfully handles important earthquakes in México and publishes the data to the public through **the mobile app which has 2 million users** (eg. Sep 19, 2022, Jan 12, 2025, and **Jan 2, 2026**). It is built with AWS Lambda, Node.js, TypeScript, React, React Query, Tailwind CSS, SNS, SQS, Kinesis, API Gateway, and DynamoDB.
- Cut database costs by up to 90% by migrating from AWS Aurora to DynamoDB..
- Build an AI agent to troubleshoot IoT devices connectivity problems. Built with Python, strands, and AWS Bedrock.
- Implement new sensors with nvidia Jetsons and AWS Greengrass which detect earthquakes using local AI models and Python.
- Use IaC tools like AWS CDK and SST to define infra and deploy every project described here to AWS.
- Build a system that is able to detect **microquakes** in real-time located in CDMX, this is the first system in the world to achieve this. This system is built with Golang, AWS Fargate, MQTT, IoT Core, Cloudwatch Alarms, SNS, Lambda URLs, SQLite, and DynamoDB.
- Maintain legacy systems working and connect them with the new ones through web scraping using Playwright.
- Maintain the main system and algorithm of **earthquake confirmation** which is built with TypeScript and JavaScript by using Kiro, TDD, and CI/CD pipelines.
- Improved sensor network connectivity from 70% to 98% stable through the development of internal tooling.
- Involved in the app's rating improvement from 3.8 to 4.6 stars on the App Store and Google Play.
- Build a weather dashboard using data provided by rain sensors and download NOAA data to generate forecast and satellite maps. This was built with Grafana, AWS Lambda, Node.js, TypeScript, Nest.js, React, React Query, Tailwind CSS, and PostgreSQL.

Teacher Assistant - Full Time

Jul 2020 - Nov 2021
Aguascalientes, México.

Código con Juan

- Provided rapid responses to student inquiries on Udemy, documenting ideas for future courses.
- Be aware of the breaking changes in libraries, frameworks, and packages that are used in the courses, which are about TypeScript, React, React Native, Tailwind CSS, Node, GraphQL, MongoDB, Laravel, and Cypress.

Full Stack Software Engineer - Contractor

Feb 2021 - Jul 2021
Aguascalientes, México.

MKF Merkamorfosis

- Developed dynamic organization charts, which is built with Next.js, TypeScript, Firebase, Material UI and D3.js.
- Created a web app to manage political campaigns, which is built with Next.js, TypeScript, Firebase, and MUI.
- Enhanced communication within MKF by organizing employees into departments, reducing response times.

Full Stack Software Engineer - Contractor

Oct 2020 - Dec 2020
Aguascalientes, México.

MANCOMM

- Replace SendOwl with Stripe for payment processing.
- The technologies used for this role were: Next.js, Node.js, Tailwind CSS, Stripe, C#, and SQL Server.