

Juan David Mahecha Cruz

📍 Bogotá D.C, Colombia

☎ +57 304 553 8120

✉ juanmahecha.dc@gmail.com

🌐 [Portfolio](#) | [GitHub](#) | [LinkedIn](#)

Professional Profile

Full Stack Engineer with a background in **Biomedical Engineering**, focused on robust architectures within the **JavaScript/TypeScript stack** and the building of **Artificial Intelligence (AI) agents**. Advanced proficiency in frameworks such as **Angular** and **NestJS**, with experience integrating **LLMs (OpenAI, Gemini, Claude)** and orchestrating advanced agents with **AWS Bedrock (Amazon Nova, Titan)** to boost automation and user experience. Specialist in **RPA/RDA, cloud deployment**, and serverless architectures, combining engineering precision with software development to build secure and scalable systems. I am a "builder" committed to **Clean Code, SOLID** principles, and **user satisfaction**, delivering result-oriented, industrial-grade software through intelligent automation and advanced AI.

Technical Skills

- **JS/TS Ecosystem:** Node.js, NestJS, Angular (v16-21), React, Astro, TypeScript, JavaScript.
 - **Automation & IA:** AWS Bedrock (Titan Knowledge Bases, agents using Amazon Nova Lite/Pro), AWS Transcribe (voice note transcription management for virtual agents with handoff and metrics), **Multi-channel AI Agents**, LLMs (Claude, Gemini, OpenAI SDK), RPA/RDA (Automation Anywhere), Chatbots.
 - **Tools & Environments:** Ruby on Rails, Python, Electron, ForgeRock (CIAM), WebSockets, SAP Integration.
 - **Cloud & DevOps:** AWS (Lambdas, ECS/ECR - Serverless Architecture, App Runner, Cognito), Docker, DigitalOcean, Linux.
 - **Data & Monitoring:** PostgreSQL, MongoDB, MySQL, SQL Server, **Metabase, Grafana**.
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Featured Projects

Synapse Kayser (Kayser Test) | [Project Overview](#)

March 2026 - Present | Lead Developer & Architect (Full Stack & QA Focus)

- Developed an advanced **Load Testing & HTTP Client** suite using **TypeScript, React, Electron, and SQLite**.
- **Features:**
 - **Stress & Load Testing:** Highly optimized testing engine capable of simulating over **12,000 continuous interactions** (efficiently using ~12GB of free RAM) to detect performance bottlenecks under high demand.
 - **Workflow Orchestration:** Advanced chained testing with dynamic data-binding and variable capture for complex user flow simulation.

- **AI-Driven QA:** Integration of Groq, OpenAI, and Gemini to analyze latencies/peaks and generate automatic optimization recommendations.
 - **Intelligent Reporting:** Automation-ready semantic reports for technical decision-making and quality assurance.
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Professional Experience

Senior Full Stack Developer – Fletx

Bogotá D.C, Colombia | November 2024 - Present

- **Architecture Design & Full Stack Development:** Led the architecture design and Full Stack development of the fuel distribution management system for client **Terpel**, supporting **over 1,000 active users and 600 destinations**; managing the project end-to-end, featuring integrations with **SAP, Salesforce, Meta**, centralized authentication (**CIAM**), **GPS** tracking, and real-time data transmission via **WebSockets**.
- **Multi-channel AI Agents:** Designed and implemented multi-channel AI agents using **Amazon Bedrock** (for orchestration and knowledge bases), **AWS Nova (Lite & Pro)**, **Amazon Titan**, and **PostgreSQL**; integrating audio-to-text transcription (**AWS Transcribe**) for voice note processing, reducing management times through a **centralized handoff with automated case creation (GLPI)**, eliminating case dispersion across communication channels, and displaying metrics on a central dashboard with interactive KPIs.
- **Serverless Cloud Infrastructure:** Deployed and managed cloud infrastructure using a Serverless architecture on **AWS (ECS, ECR)**, optimizing continuous delivery and ensuring high scalability through automated **CI/CD** pipelines.
- **End-to-End Software Solutions:** Developed end-to-end Full Stack solutions utilizing **Angular, Node.js (NestJS)**, and performed corrective/evolutionary maintenance on systems based on **Ruby on Rails**.

Freelance Full Stack Developer – Jiménez & Jiménez Abogados Asociados

Bogotá D.C, Colombia | September 2023 - Present

- **End-to-End Construction & Automation:** Independently created a comprehensive, autonomous **risk assessment system** that **reduced operating costs by 75%** by automating searches and simplifying daily operations. Developed the processing engine in **NestJS** and dynamic dashboards in **Angular** with real-time updates via **WebSockets**.
- **Data Engineering & AI:** Programmed advanced **Web Scraping systems with Puppeteer** and integrated the **OpenAI SDK** for automated extraction and risk analysis based on transactional behavior, eliminating manual search processes.
- **Advanced Analytics:** Implemented visualization layers using **Metabase and Grafana** to enable data-driven legal decision-making.

Web Developer – Issatec / Tevez Colombia

July 2023 - March 2024

- Developed **MyHome**, a home-care health platform using **Angular and Ionic**.
- Automated clinical data extraction using **Automation Anywhere** and **ChatGPT**.

Freelance Developer – Be Trainer

March 2023 - May 2024

- Built a **Full Stack scheduling system (Angular, Ionic, Node.js)** including full management of a dedicated server.

Intelligent Automation Mid Developer – Teleperformance

April 2022 - May 2023

- **Full Stack Development & Automation:** Led technical development of intelligent automation solutions using **Node.js/Express and Angular**, integrated with **SQL Server and IIS** for complex process orchestration.
- **Blockchain & Service Consoles:** Developed blockchain-based platforms for digital certification generation and administrative service systems.
- **Python & Data Processing:** Implemented Python backends for **OCR** consumption, automatic file classification, and image pre-processing to optimize automation workflows.
- **RPA Engineering:** Developed high-impact bots for **Cemex** and **Zipcar**, including a specialized training platform via **WhatsApp Business**.

Intelligent Automation Jr. Developer – Teleperformance

March 2021 - April 2022

- **Chatbot Construction:** Built intelligent conversational agents using **Flow.ai** and **Yellow.ai**, with **Node.js** backend orchestrators to trigger **Automation Anywhere** workflows.
- **AI POCs:** Developed proof-of-concepts (POCs) using **Angular** and AI for **reCAPTCHA** resolution and automated data validation.
- **RPA Bots (AA360):** Created automated processes focused on improving operational efficiency.

Jr. Software Engineer – Ingenian Software

July 2020 - February 2021

- Developed the web application for the **National Short Story Contest 2020** (Ministry of Education) using **Angular and Drupal**.

Biomedical Technology Support Engineer – Compresores y Servicios C.R.

March 2019 - March 2020

- Regulatory management (**INVIMA**) and specialized maintenance of biomedical equipment.

Education

- **B.S. in Biomedical Engineering** | Universidad Manuela Beltrán | Jan 2013 - Dec 2018.
- **Diploma in Applied Epidemiology for Biomedical Engineering** | Universidad Manuela Beltrán | Jun 2018 - Jul 2018.

- **Full Stack Development Bootcamp** | Bictia / BIT | Jan 2020 - Jul 2020.
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Certifications & Awards

- **Professional Engineering License (COPNIA)** | **Issatec's Best of 23 (Rookie of the Year)** | **Teleperformance Special Projects Recognition.**
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Languages

- **Spanish:** Native.
- **English:** B2 (Certified) | Working toward C1.