

Renan Machado

Senior Full Stack Engineer

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SUMMARY

Passionate Full-Stack Software Engineer with 5+ years of experience designing and implementing robust systems for the payment and fintech sector. Proven track record delivering high-performance backend services, AI integrations, cloud-native architectures, and modern frontend interfaces. Expertise across event-driven microservices, RAG/LLM pipelines, and legacy system modernization using SOLID principles and Clean Architecture.

TECHNICAL SKILLS

Backend: Java (Spring Boot, Quarkus), Python (FastAPI, Django REST), Node.js (NestJS, Express, Elysia), Golang

Frontend: React.js, Next.js, Tailwind, Material UI, Zustand, shadcn/ui

AI/ML: RAG strategies, LangChain, LLM integration (Claude, OpenAI, Grok), vector databases, fine-tuning

Cloud & DevOps: AWS (Lambda, ECS, S3, DynamoDB, API Gateway), Azure DevOps, Docker, Kubernetes, Terraform, Serverless Framework, CI/CD

Databases: PostgreSQL, MongoDB, DynamoDB, Oracle, SQL Server, MySQL

Messaging: Apache Kafka, RabbitMQ, AWS SQS

Observability: Splunk, Grafana, Prometheus, Sentry, AWS CloudWatch, Datadog

WORK EXPERIENCE

Software Engineer

Caterpillar Inc. (via contractor) | January 2026 – Present | California, US

Working on the Dealer Files Processing team, responsible for building and maintaining the parts pricing management system that powers Caterpillar's global dealer network.

- Contributing to a large-scale pricing system that bridges legacy COBOL/mainframe environments with modern Java microservices.
- Engineered robust file processing pipelines for high-volume structured data migrations, ensuring data integrity across the pricing lifecycle.
- Developed and maintained backend services using Java and Spring Framework to process, validate, and apply dealer pricing rules globally.
- Built React.js frontend interfaces enabling internal teams to manage and monitor dealer file operations with greater visibility.
- Leveraged AWS (S3, Lambda) for scalable, cloud-native file ingestion and processing workflows.
- Managed CI/CD pipelines via Azure DevOps for reliable automated delivery across environments.

Technologies: *Java, Spring Boot, React.js, AWS (S3, Lambda), PostgreSQL, Azure DevOps, COBOL/Mainframe integration, CI/CD*

Software Engineer

PagBank (via Invillia) | March 2025 – January 2026 | São Paulo, Brazil

Part of the Anti-Fraud team at one of Brazil's leading digital banks, building high-availability systems to detect and prevent fraudulent transactions in real time.

- Played a key role in delivering MVP 1 of the account and block management system, enabling fraud operations such as account suspension and block lifecycle management at scale.
- Developed and maintained backend services using Java and Spring Framework for fraud detection rules and transaction monitoring pipelines.

- Built observability infrastructure using Splunk, Grafana, and Prometheus for real-time alerting and faster incident response.
- Designed and optimized SQL queries and data models in PostgreSQL to support fraud analytics and audit trails.
- Automated build and deployment workflows using Jenkins and CI/CD pipelines, improving release reliability.

Technologies: *Java, Spring Boot, Splunk, Grafana, Prometheus, PostgreSQL, Jenkins, CI/CD*

Senior Full Stack Engineer

EcoAgro | April 2025 – September 2025 | São Paulo, Brazil

Responsible for developing new features and establishing development guidelines for frontend and backend applications.

- Architected and developed RAG solutions using LangChain with Python and LLMs (Anthropic and OpenAI models).
- Built new interfaces for internal systems using Material UI 7 with Next.js 15 and Zustand for state management.
- Developed event-driven applications using Serverless Node.js and AWS.
- Collaborated with PO, Tech Lead, and managers to define tasks and guidelines for the development team.

Technologies: *Node.js, React, Next.js, Serverless Framework, AWS, Python, LangChain, LLMs*

Senior Full Stack Engineer

Starsling | August 2025 – November 2025

Developed new features and created a sandbox environment to simplify local development and integration testing.

- Updated the user onboarding flow to support member invitation.
- Created seeding scripts to streamline local development for engineers.
- Mocked integrations with third-party tools including Supabase, Sentry, and Slack.

Technologies: *Next.js, Better-auth, Supabase, AWS, OpenAI, Mastra (AI Agents)*

Software Engineer

Banco Itaú (Itaú Unibanco) | September 2024 – February 2025 | São Paulo, Brazil

Designed software architectures for high-performance payment systems in the Automatic Debit area, modernizing legacy systems and improving scalability.

- Improved performance of 12+ microservices, enabling processing of hundreds of thousands of automatic debits per minute.
- Designed a DynamoDB table purging process, reducing AWS costs by 10%.
- Increased ECS application performance by 55% by refining auto-scaling policies.
- Optimized data integration with the company's data mesh for improved analytics.
- Migrated debit processing from AWS Lambda to Python, enhancing maintainability.

Technologies: *Java, Spring Boot, Python, Golang, AWS (Lambda, ECS, DynamoDB, S3), Kafka, RabbitMQ, Docker, Kubernetes, CI/CD*

Software Engineer

FIRST Digital Services (Santander) | May 2023 – August 2024 | São Carlos, Brazil

Developed solutions for high-throughput systems related to credit and debit card platforms, including event-driven systems and notification features.

- Built a messaging system using Java, Kafka, and RabbitMQ capable of processing 40,000+ requests per minute.
- Implemented a retry mechanism for transactional email and SMS notifications.
- Designed an event-driven system to track real-time operations and improve observability.
- Delivered hundreds of automated tests using JUnit and Mockito ensuring code quality.
- Participated in MVP 1 delivery for credit lines of global cards.
- Authored technical documentation and introduced branch/release models for the team.

Technologies: *Java, Spring Boot, Kafka, RabbitMQ, MongoDB, JUnit, Mockito, AWS, Python, PySpark, Docker, Kubernetes*

Full Stack Software Engineer

Cassol Centerlar | November 2022 – February 2023 | São José, Brazil

- Developed backend applications using Java 11, Spring Boot, JSF, and Oracle Database.
- Fixed key bugs, increasing sales productivity by 10%.
- Optimized memory consumption for large-scale report generation, reducing overhead by 50%.
- Created a logistics QR Code and barcode printing service for internal operations.
- Developed React-based front-end components for a proof-of-concept internal system.

Technologies: *Java, Spring Boot, React, JSF, Oracle DB, Node.js*

Full Stack Software Engineer

WaveTech Soluções Tecnológicas | August 2021 – November 2022 | Florianópolis, Brazil

- Developed a hearing aid sales platform using React and Node.js.
- Deployed the company's first MVPs for internal and external platforms.
- Integrated Google Analytics and ad campaigns, growing the platform to 10,000+ users.
- Led deployment of MongoDB solutions for scalable data management.

Technologies: *Node.js, React, MongoDB, SQL, Docker, Kubernetes, GCP*

Senior Full Stack Software Engineer

Nefer (Part-time) | February 2021 – September 2025 | Brazil

Developed innovative platforms for the fitness and educational sectors, leveraging modern technologies for service digitalization.

- Developed a fitness center application using Next.js and Supabase for workout management, scheduling, and student performance tracking.
- Contributed to an e-learning platform with AWS and Java, facilitating content distribution to thousands of users.
- Built full-stack CRM applications using TypeScript (Node.js) for small local businesses over 2+ years.
- Implemented deployment pipelines for frontend applications with optimized CI/CD configuration.

Technologies: *Next.js, Supabase, AWS (S3), Java, Spring Boot, React, Node.js, Terraform*

EDUCATION

Bachelor's in Software Engineering

Estácio de Sá | April 2022 – August 2026 (expected) | São Paulo, Brazil

Desenvolvimento de Sistemas

SENAI/SC | March 2021 – June 2022 | Florianópolis, Brazil

CERTIFICATIONS

- AWS Certified Cloud Practitioner (March 2024)
- Java e JPA: consultas avançadas, performance e modelos complexos
- Apache Airflow: extração de dados
- Kafka: produtores, consumidores e streams
- UI Design: mergulhando nas interfaces digitais

LANGUAGES

English – Advanced **Portuguese** – Native