

Juan Carlos Villarreal Avalos

SENIOR FULLSTACK AI DEVELOPER

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SUMMARY

Senior Full Stack Developer with 8+ years of experience building scalable web and mobile applications using **React, Angular, Vue, React Native, Node.js**, and **PHP**. Specialized in integrating **AI** capabilities using **LLMs, LangChain**, vector search, and advanced **NLP** workflows to deliver intelligent, automation-driven product features.

Experienced in architecting and shipping production-ready solutions across SaaS, cybersecurity, finance, education, e-commerce, and healthcare platforms. Strong focus on clean architecture, high-quality **UI/UX**, performance optimization, and end-to-end delivery of modern digital products.

Out of work, I maintain balance and well-being through endurance cycling and an active lifestyle.

WORK EXPERIENCE

Full Stack Software Engineer and Technical Advisor

J&D LANDSCAPING LLC | South Windsor, CT- Remote

Dec 2023- Apr 2026

- Architected scalable full-stack business platforms using **React, TypeScript, Node.js, NestJS**, and **PostgreSQL**, supporting customer operations, workflow automation, and analytics-driven decision systems.
- Built modular frontend applications with **React, Redux Toolkit, TailwindCSS**, and **Storybook**, creating reusable enterprise-grade component systems and improving maintainability across internal platforms.
- Developed secure backend APIs and workflow orchestration services using **NestJS, REST APIs, JWT authentication**, and **PostgreSQL**, enabling scalable integrations between customer portals, analytics systems, and AI services.
- Integrated enterprise monitoring and observability using **Sentry**, implementing real-time error tracking, performance monitoring, release health analysis, and production debugging workflows.
- Built real-time operational alerting systems using **Discord webhooks and bot integrations**, automating deployment notifications, incident alerts, workflow monitoring, and AI system reporting.
- Built production-grade automation and AI services using **Python, OpenAI APIs, spaCy, embeddings, NLP pipelines**, and **vector search**, enabling intelligent document processing, estimate generation, and service-request interpretation.
- Developed scalable ETL and analytics pipelines using **Python, PostgreSQL**, and **AWS** services, transforming operational and customer datasets into actionable business intelligence and forecasting systems.
- Optimized complex SQL queries and reporting workflows in **PostgreSQL**, generating operational insights related to conversion funnels, pricing optimization, workforce efficiency, and profitability analysis.
- Implemented semantic retrieval and RAG-style search capabilities using **vector embeddings** and **intelligent search pipelines**, improving historical estimate retrieval and project-scoping accuracy.

- Designed structured logging, automated validation, and observability workflows using **Sentry**, **CloudWatch**, and **custom monitoring pipelines**, improving production reliability and AI workflow traceability.
- Deployed and managed cloud-native infrastructure on **AWS (S3, RDS, Lambda, EC2, IAM, CloudWatch)** with emphasis on scalability, security, reliability, and cost optimization.
- Implemented modern DevOps and **CI/CD** workflows using **Docker**, **Kubernetes**, **Jenkins**, and **GitHub Actions**, streamlining deployment automation and reducing release turnaround time.
- Served as a technical advisor to leadership on AI adoption, system architecture, infrastructure modernization, observability strategy, and long-term platform scalability planning.

Full Stack Engineer

Securin Inc. | Albuquerque, NM - Remote

Apr 2021- Nov 2023

- Designed and enhanced interactive user interfaces for cybersecurity analysts, enabling clearer visibility into vulnerabilities, assets, and threat activity through **advanced UI architecture** and **component-driven design**.
- Developed modular UI components and data dashboards that supported **vulnerability prioritization, risk scoring, and incident response workflows**.
- Built and maintained **large-scale data processing workflows** that aggregated vulnerability insights, threat intelligence, and asset data into unified customer-facing reports.
- Improved platform performance by implementing **optimized data-loading strategies, efficient routing, and scalable application structure**, reducing load times and enhancing responsiveness.
- Collaborated with backend and data engineering teams to design **real-time data pipelines** that supported continuous ingestion and correlation of threat and vulnerability data.
- Strengthened platform resilience by enforcing **secure data-handling practices, access-control logic, and cybersecurity-aligned workflow patterns** across the application.
- Contributed to **alerting, reporting, and automated risk assessment features**, enabling customers to identify and respond to emerging threats more efficiently.
- Participated in Agile ceremonies to improve cross-team coordination and maintain predictable delivery cycles.
- Engaged in **code review, requirement refinement, and architecture discussions** to ensure scalable, maintainable, and security-compliant implementations.

Frontend Developer

QCR Holdings Inc. | Moline, IL - Remote

Sep 2018- Mar 2021

- Developed and maintained responsive websites for over **20** clients, achieving an average client satisfaction rating of **4.8/5**.
- Implemented **SEO** best practices resulting in organic traffic growth by **50%** within 6 months for client websites.
- Led front-end development of a custom e-commerce platform, increasing online sales by **30%** and reducing bounce rates by **15%** through improved user experience and performance optimizations.
- Optimized the **Go** code using goroutines. Experience building Listener on **Rabbit MQ** erlang.
- Developed Single Page Applications (**SPA**) using **React**, **ES6**, and **typescript, Web Pack, Grunt** and **Redux**.
- Integrated Single Sign On (**SSO**) for multiple applications in the portal using SAML and JWT.
- Utilized **GitHub** for repository code management, and **Zoom** and **Slack** for team peering purposes for co-work assignments.
- Created and managed a **Docker** deployment pipeline for custom application images in the cloud using **Jenkins**.

Junior Frontend Developer

Mercury Development | Stuart, FL - Remote

Mar 2016- Aug2018

- Supported the development of client-facing web applications across industries such as finance, healthcare, and professional services, contributing to faster delivery cycles and improved client satisfaction.
- Collaborated on the development of 2 responsive web applications for clients across various industries, contributing to a **20%** increase in project delivery efficiency.
- Implemented front-end optimizations that led to a **15%** improvement in page load times and **20%** reduction in bounce rates, enhancing user experience and engagement metrics.
- Assisted in the integration of a new **UI** component library, resulting in **30%** faster development cycles and a **15%** decrease in development costs through code reuse and streamlined workflows.

EDUCATION

Bachelor of Computer Science

Pennsylvania State University-Penn State Lehigh Valley, 2010 - 2015

TECHNICAL SKILLS

- HTML, CSS/SASS, JavaScript, TypeScript, React.js, Next.js, Angular, Vue.js, React Native, Expo, Tailwind CSS, Bootstrap, Material UI, Chakra UI, Storybook
- Node.js (Express, NestJS), PHP (Laravel, Symfony), Python (Django, Flask, FastAPI), .NET/.NET Core, Go, RESTful APIs, GraphQL, gRPC, WebSockets, Microservices, Shopify Plus
- AI & Generative AI, OpenAI/ChatGPT, LangChain, LLM Integration, NLP, TensorFlow, spaCy, Pandas, NumPy
- PostgreSQL, MySQL, SQL Server, MongoDB, Redis, DynamoDB, Cassandra, Firebase
- AWS (Lambda, S3, EC2, DynamoDB, CloudFront, RDS), Azure (Key Vault, ADLS), Docker, Kubernetes, Jenkins, Terraform, Nginx, Apache, Vercel
- Jest, Mocha, Cypress, Playwright, Cucumber, PyTest, PHPUnit, NUnit, Jasmine, Karma
- Elasticsearch, Kafka, RabbitMQ, SQS
- Git, GitHub, Jira, Slack, Postman

INTERESTS

- Cycling
- Travel