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# Jackie Santana

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## Summary

I am a **Senior Software Engineer** with a strong passion for combining the precision of back-end engineering with the creativity of front-end architecture and user experience design. With **12 years of experience** across technologies such as React, TypeScript, Node.js, REST APIs, GraphQL, Angular, Java Spring Boot, and cloud-native infrastructure, I view software development not just as engineering, but as a form of problem-solving and creative expression.

My background spans full-stack application development, enterprise microfrontend architectures, GraphQL federated systems, **CI/CD modernization**, cloud deployments, and DevOps-focused infrastructure initiatives. I have worked extensively with technologies including **React**, Angular 20, Node.js, Apollo Federation, Java 21, Maven, **AWS EKS**, Jenkins, **Kubernetes**, TypeScript, and distributed microservices within enterprise-scale environments.

JavaScript, React, **TypeScript**, and **Node.js** remain my strongest technical specializations, with extensive experience building scalable front-end applications, modern APIs, enterprise platforms, and cloud-integrated systems. In recent years, my experience has expanded further into **Angular**, **Java Spring Boot**, DevOps engineering, infrastructure automation, observability, telemetry monitoring, and production release management.

While the JavaScript ecosystem remains my primary focus area, I also have professional experience working with Angular, Java, Python, GraphQL services, AWS cloud infrastructure, and containerized enterprise systems. My philosophy has always been that mastering **core software engineering fundamentals** is more valuable than superficially touching every framework or language. Because of that, I prioritize deep expertise in scalable architecture, distributed APIs, microservices, and enterprise application development while remaining highly adaptable across evolving technologies and platforms.

Beyond technology, my interests in history, philosophy, psychology, and systems thinking heavily influence how I approach software engineering, architecture, communication, and long-term problem solving.

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## Core Expertise and Versatility in Software Development

While my background is heavily rooted in **React, TypeScript, Node.js, and full-stack JavaScript development**, my experience has expanded significantly into **Java, Angular, DevOps, cloud infrastructure, and enterprise platform engineering** through large-scale modernization and migration initiatives within enterprise environments.

In addition to front-end and Node.js expertise, I have worked extensively with **Angular 20 microfrontend architectures**, **Java Spring Boot applications**, **Maven**, **Java 21/JDK 21**, **GraphQL federated services**, and cloud-native infrastructure running on **AWS EKS** and Kubernetes-based platforms. My responsibilities have included production release management, CI/CD pipeline modernization, infrastructure automation, telemetry monitoring, vulnerability remediation, and enterprise deployment orchestration.

One of my strongest attributes is the ability to rapidly adapt and ramp into new technologies. With a strong foundation in **Object-Oriented Programming**, distributed systems, API architecture, and core software engineering principles, I am able to transition efficiently across frameworks, languages, and enterprise ecosystems. While React and the JavaScript ecosystem remain my strongest technical specialization, I have successfully contributed to enterprise initiatives involving Java, Angular, Python, GraphQL, DevOps, and cloud infrastructure engineering.

My experience has taught me that strong engineering fundamentals transcend individual languages and frameworks. Whether working in React, Angular, Node.js, Java Spring Boot, or Python, the underlying principles of scalable architecture, maintainability, observability, testing, and performance remain consistent. Given the opportunity, I am confident in my ability to quickly integrate into new technical environments, contribute effectively across the stack, and deliver high-impact solutions within complex enterprise systems.

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## Skills

### Core Web Technologies:

- HTML, CSS, Sass, Bootstrap, SCSS, Responsive Design, Accessibility (WCAG)

### Scripting and Programming Languages:

- JavaScript, TypeScript, Node.js, Python, Ruby, Java (Spring Boot, Java 21, JDK 21)

### Front-End Development:

- **Frameworks & Libraries:** React (Redux, React Hooks), Vue.js, Angular, Angular 20, Apollo Client, Microfrontends
- **Styling Libraries:** Material UI
- **Build Tools & Bundlers:** Webpack, Vite

### Back-End Development:

- **Frameworks:** Express, Next.js, Ruby on Rails, Flask, Django, Spring Boot
- **API Technologies:** GraphQL (Apollo Server, Apollo Federation, Apollo Gateway, Subgraph), REST APIs, JWT Authentication, API Gateway, Microservices Architecture

### Databases:

- Systems: MongoDB, Firebase, MySQL, PostgreSQL
- ORM: Prisma

### Containerization and Virtualization:

- **Tools:** Docker, Kubernetes (AKS, EKS), Linux, Containerized Microservices

### Cloud Computing and Deployment:

- **Platforms:** AWS (Lambda, S3, Fargate, EC2, ECS, EKS), Azure (CI/CD Pipelines), Digital Ocean, Linode

### Continuous Integration and Deployment (CI/CD):

- **Tools:** Jenkins, Jenkins Core, CircleCI, GitHub Actions, Azure CI/CD Pipelines

- **Practices:** Deployment Automation, Production Releases, Rollback Procedures, Environment Promotion

### Microservices and Server Management:

- **Architecture:** Experience designing and developing Microservices, Distributed Systems, Federated GraphQL Services
- **Server Management:** Nginx, Apache

### Testing Frameworks:

- **Tools:** Jest, Cypress, React Testing Library
- **Testing Types:** Smoke Testing, Regression Testing, Chaos Testing, Performance Testing

### Version Control:

- Systems: Git

### Project Management and DevOps:

- Tools: Azure DevOps

### Design and Prototyping:

- Tools: Adobe XD, Figma

### Observability and Monitoring:

- **Tools:** Datadog
- **Practices:** Telemetry Monitoring, Log Analysis, Distributed Tracing, Production Diagnostics

### Project Management & DevOps

- **Tools:** Azure DevOps, Jira
- **Practices:** DevOps Engineering, Infrastructure Automation, Cloud Deployments, Production Support

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## Experience

SENIOR BACKEND/FULL STACK SOFTWARE ENGINEER | 08/2024 - Current

Yoh (Connex) /Fidelity Investments - Westlake, TX

- **CI/CD Modernization:** Led enterprise CI/CD modernization initiatives by migrating pipelines from **Jenkins Enterprise to Jenkins Core** and transitioning **AWS Lambda deployments to Jenkins EKS-based infrastructure**, improving deployment reliability, scalability, and operational efficiency.
- **Production Release Engineering:** Led production release deployments and platform modernization efforts for **Fidelity Health NetBenefits Life Events and Modeling** applications, supporting participant benefit enrollment workflows, pre-

existing and new benefit elections, plan type configurations, and life event processing across EKS applications, Angular microfrontends, Java services, GraphQL APIs, and S3-hosted enterprise platforms while coordinating complex production installs, late-night deployment windows, rollback procedures, and post-release validation activities.

- **Jenkins Pipeline Operations:** Managed and executed high-volume Jenkins pipeline operations across multiple environments, handling deployment orchestration, environment promotions, production troubleshooting, infrastructure validation, and release support for **enterprise-scale cloud platforms**.
- **Cloud Infrastructure & DevOps:** Executed **cloud migration and DevOps initiatives** involving **AWS EKS, S3, containerized microservices, and Kubernetes-based deployments**, improving observability, scalability, resiliency, and operational performance.
- **Java (Spring Boot) & Backend Modernization:** Supported migration efforts from **GraphQL-based services to Java Spring Boot applications**, working extensively with **Maven, Java 21, and JDK 21** while modernizing backend services and optimizing deployment workflows.
- **GraphQL Federation & API Architecture:** Managed **GraphQL resolver and query migrations** across federated architectures using **Apollo Federation, Apollo Gateway, and Subgraph integrations**, improving API consistency, schema orchestration, and distributed service communication across multiple subgraphs.
- **Front-End & Microfrontend Development:** Worked extensively with **Angular microfrontend architectures**, supporting enterprise-scale **Angular 20 applications**, shared module integration, dependency management, front-end modernization efforts, and cross-application interoperability.
- **Enterprise API Integration:** Performed **domain onboarding and API subscription integrations** across enterprise platforms, configuring secure service communication and supporting distributed microservice connectivity across internal systems.
- **Node.js Modernization & Security:** Led **Node.js modernization initiatives**, upgrading enterprise applications to modern Node.js runtimes while resolving **critical package vulnerabilities**, deprecated dependencies, runtime incompatibilities, and build stability issues across multiple services.
- **Performance & Resiliency Testing:** Conducted **performance testing, chaos testing, smoke testing, and regression validation** to evaluate application resiliency, deployment stability, scalability, and operational readiness under high-traffic conditions.
- **Observability & Monitoring Traffic:** Utilized Datadog for **telemetry monitoring, dashboard analysis, traffic observability, log tracing, and production diagnostics**, proactively identifying system bottlenecks and operational anomalies.
- **Telemetry & Distributed Systems:** Performed **subgraph log analysis and telemetry integrations**, implementing secure logging practices, sensitive data masking, enhanced observability, and production debugging improvements across distributed systems.
- **Automation & Quality Engineering:** Developed and maintained **automated API and validation testing suites** using **TypeScript and Python**, improving release confidence, QA coverage, and enterprise deployment reliability.
- **Cross-Functional Engineering Collaboration:** Collaborated cross-functionally with engineering, QA, DevOps, platform, and infrastructure teams to troubleshoot production issues, optimize deployment strategies, modernize enterprise systems, and support **large-scale cloud operations**.

**SENIOR FULL STACK REACT/NODE.JS DEVELOPER** | 02/2024 - 06/2024

**iTarks/Walgreens - Remote**

- **Full-Stack Development:** Contributed to both front-end and back-end development for the DCP Portal using React and Node.js, enhancing its capabilities for Walgreens agents. Developed key features such as refund processing, tax calculations, and order results display, improving user experience.
- **Component and Page Development:** Worked on the ViewCurrentOrder component, CompleteReturnOrder, and ConfirmReturnOrder pages in React, ensuring seamless user interactions. Created the Contact Lens Order Search functionality, enabling efficient searches for contact lens orders.
- **Maintained Legacy React Codebase:** Managed and updated a React 15 codebase using class components, resolving numerous bugs and enhancing system stability. Implemented new features and conducted thorough

testing and debugging for high-quality code.

- **Node.js Server Route Maintenance:** Worked alongside Node.js server routes to maintain them, ensuring proper creation of cookies, authentication, encryption, and caching. Verified that server routes were correctly interacting with the React front-end client.
- **Customer Profile Management:** Developed interfaces using React for agents to access and modify customer profiles, streamlining customer support operations. Ensured efficient data handling and improved the overall functionality of the portal.
- **CI/CD Pipeline and Deployment:** Utilized Azure DevOps for continuous integration and continuous deployment (CI/CD) pipelines. Configured webpack for bundling and optimizing the React application. Deployed the application to AWS using Kubernetes, setting up pods (possibly using AWS Fargate) for scalable and reliable deployment.
- **Cross-functional Collaboration and Documentation:** Collaborated with product managers, designers, and backend engineers to ensure seamless feature integration and optimal performance. Provided detailed documentation for new features and updates, supporting knowledge transfer and future maintenance efforts.

**SENIOR SOFTWARE ENGINEER** | 02/2022 - 01/2024

**BI Worldwide/ Verizon Wireless - Remote**

- **Built Advanced Comment Thread Feature:** Developed a sophisticated comment thread system in React and TypeScript, employing recursive algorithms to handle Reddit-style nested comment structures. Implemented a polymorphic design for a YouTube-like algorithm, limited to one level deep, and integrated these features into a shared, reusable library for broader application use.
- **Data Visualization and Analytics:** Created a range of interactive graphs and charts to display data from the "FeedbackHub," including quiz, survey, and open idea responses. Utilized AG Grid, React Chart, and Chart.js for effective data visualization, aiding in the analysis and interpretation of user feedback.
- **Employee Nominations and Recognition CMS:** Played a pivotal role in the development of an internal nomination system designed to recognize employee performance. This system, a custom-built CMS, enabled moderators to assign permissions and roles, facilitating a streamlined process for acknowledging outstanding work.
- **Collaboration and Backend Integration:** Worked closely with product managers and Java backend engineers to enhance feature integration and system functionality. Contributed to server setup and API development using Node.js Express, adhering to the waterfall methodology for structured project management.
- **Maintenance and Server Management:** Ensured the reliable operation of these systems on an EC2 server within the AWS ecosystem, employing NGINX for server management and optimization.

**SENIOR SOFTWARE ENGINEER** | 09/2021 - 02/2022

**Modis/Relx - Remote**

- **Led Development of Legislative Search Query Tool:** Pioneered a sophisticated search tool for legislative records using GraphQL and Apollo Client, greatly enhancing legal data accessibility during a key data migration project from IBM Informix to a React TypeScript UI with Node.js.
- **Performance Optimization in React Application:** Optimized the Informix TypeScript React application, employing **useMemo** and **useCallback** for improved memory efficiency, ensuring the system's responsiveness and stability post-migration.
- **Innovative Edit/Update Feature Implementation:** Played a crucial role in developing an Edit/Update feature for records, integrating GraphQL mutations and Apollo server's resolvers with Prisma ORM. This feature was instrumental in the smooth transition to the new React-based system.
- **Efficient Database Management with Prisma ORM:** Managed database connections with Prisma ORM, ensuring efficient data interaction with the MySQL database, a critical aspect of the migration process.
- **Collaboration and Quality Assurance:** Worked closely with product managers and designers, using Git and AzureDevOps for streamlined version control and collaboration. Enforced a dual-review process for quality assurance, and incorporated sitemap XML for improved SEO.

- **Agile Project Management & Advanced Testing:** Led the project in an Agile setting, maintaining ECS servers in AWS and ensuring code integrity from production to deployment. Utilized Jest and Cypress for comprehensive E2E and unit testing, guaranteeing robustness post-migration.

## FULL STACK WEB DEVELOPER II | 02/2020 - 08/2021

### Brash Ent - Chesapeake, VA

- **Real-Time Data Visualization:** Integrated Apex Chart.js in the React TypeScript frontend to develop real-time, interactive data visualizations of sales data and customer interactions.
- **React and React Hooks:** Utilized React and React Hooks to build dynamic and responsive user interfaces, ensuring seamless user interactions and state management.
- **Seamless Integration:** Leveraged Node.js and Express to ensure a smooth and efficient connection between the React TypeScript frontend and the backend, facilitating uninterrupted data flow and managing user authentication securely.
- **Custom MongoDB Applications:** Designed tailored MongoDB applications to meet the unique needs of the fitness apparel retailer, improving data handling and storage capabilities.
- **Data Querying with Apollo-Server, Express, and Node.js:** Enhanced data querying capabilities using Apollo-Server, Express, and Node.js with GraphQL, enabling efficient data manipulation.
- **Python for Automation and Authentication:** Utilized Python to automate critical backend processes and manage CSV exports for the React frontend, improving efficiency. Implemented Python scripts for robust authentication mechanisms.
- **Java JSP for API Routing and Login Page:** Employed Java JSP to handle API routing and develop a secure login page as microservices, ensuring a robust and scalable application architecture.
- **Dynamic Data Fetching with React Apollo Client and AJAX:** Employed React Apollo Client and AJAX for dynamic fetching of GraphQL data, ensuring efficient queries and mutations.
- **Advanced Backend Development:** Led backend development with Node.js, Express, and TypeScript, ensuring efficient database interactions with Prisma ORM and PostgreSQL. Implemented Node.js clusters and multithreading to optimize backend performance.
- **Server Management with Terraform, Jenkins, AWS Lambda, and S3:** Utilized Terraform for infrastructure as code, Jenkins for CI/CD, AWS Lambda for serverless architecture, and stored assets in S3 buckets, ensuring scalable and reliable deployment.
- **Docker Implementation and Fargate for Kubernetes Pods:** Implemented Docker containers to establish a uniform environment across both development and production, enhancing system stability. Used AWS Fargate for managing Kubernetes pods.
- **API Gateway Setup:** Configured an API Gateway to handle microservices, ensuring secure and efficient communication between services.
- **Testing and Accessibility:** Utilized Cypress for unit testing and Jest for Node.js unit tests, ensuring code reliability. Implemented a11y accessibility features to support screen readers and enhance the user experience for all users.
- **Design and Product Strategy:** Participated in weekly design and product strategy meetings, presenting updates and insights, including developing a COVID data API using Python for web scraping. Utilized Slack for effective team communication.

## FULL STACK DEVELOPER/CONSULTANT | 01/2019 - 01/2020

### MRE Consulting - Houston, Texas

- **Streamlined User Data Management with GraphQL:** I implemented GraphQL to efficiently manage user data, facilitating seamless queries and mutations to the database. This integration significantly enhanced the user interaction and data handling capabilities of our React JS frontend.
- **Versatile Database Development with MySQL/MongoDB:** My experience extended to developing and deploying robust applications utilizing both MySQL and MongoDB. This demonstrated my adaptability and proficiency in handling various database technologies to suit different project needs.

- **Custom React Webpack Optimization:** I designed and implemented a custom webpack configuration for React JS applications, incorporating gzip and image compression plugins. This optimization ensured high performance and responsiveness on both mobile and desktop platforms, meeting the demands of modern web standards.
- **SEO Enhancement with Node.js:** Leveraging Node.js, I enabled effective Search Engine Optimization for our web applications. By aligning with Google bots' indexing algorithms, I significantly boosted our online visibility and search rankings.
- **Cross-Platform Sales Training Portal Development:** In a unique project for an Oil Rig company based out of SugarLand, I created a CRM and sales training portal. This involved using Salesforce CMS with Apex, HTML, Bootstrap, and CSS to craft an educational platform focused on oil sales training and industry operations. My role in this project showcased my capability to develop multi-platform solutions that address specific industry needs.

**FULL STACK WEB DEVELOPER** | 06/2014 - 11/2018

### Zag Interactive - Glastonbury, CT

- **UI/UX Design Analysis and React Development:** Led a thorough analysis and overhaul of the UI/UX design for a popular e-commerce site, catering to over 200,000 unique visitors. Used React class components to build dynamic and responsive user interfaces, ensuring a seamless and engaging user experience.
- **Performance Optimization through Automation:** Implemented the Webpack bundler to automate image optimization and minify JavaScript and CSS, reducing page load times by up to 30%.
- **E-Commerce Features Development:** Played a key role in developing essential e-commerce features, including an intuitive shopping cart and seamless payment processing using the Stripe API.
- **Flask Web Application Development for E-Book Platform:** Spearheaded the development of a web-based e-commerce and e-book platform using Flask, applying the MVC architecture to ensure a streamlined and maintainable application design.
- **Robust API Design with Python Flask Microservices and Jinja Templates:** Crafted a powerful RESTful Web Service API for the platform, enhancing data interconnectivity and handling. Utilizing Jinja templates within Flask facilitated seamless integration and dynamic content rendering.
- **PostgreSQL for CRM Database Management:** Managed the platform's customer relationship databases using PostgreSQL, ensuring accurate and organized data storage, crucial for effective customer engagement and gaining valuable insights into reader preferences and behaviors.
- **Redux for Enhanced Application Performance:** Optimized the e-book platform application by implementing Redux, improving state management and user interaction.
- **Node.js and Express for Authentication and Backend Solutions:** Utilized Node.js to develop robust authentication microservices, managing user logins and session handling securely and efficiently. Employed Node.js and Express to develop and maintain a robust backend for the application, supporting intricate data processing required for the platform.
- **AWS EC2 and Nginx for Server Setup:** Set up and managed servers on AWS EC2, using Nginx for load balancing and server management to ensure high availability and performance.
- **Testing and Accessibility:** Utilized Cypress for unit testing and Jest for Node.js unit tests, ensuring code reliability. Implemented a11y accessibility features to support screen readers and enhance the user experience for all users.

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## Websites, Portfolios, Contributions

- <https://jackiesantana.net>
- <https://github.com/jackie1santana>
- <https://stackoverflow.com/users/11827033/jackie-santana>

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## Education and Training

**Apollo GraphQL - Certificate** | Credential ID 45b1e10b-c0c0-4e37-b03d-590a637111a8

Apollo Graph Developer - Associate, 08/2024

**Apollo GraphQL - Certification | Credential ID 56254af0-1f7c-4e0e-8230-bfb957529f42**

Certified Apollo Graph Developer - Professional, 08/2024

**Udemy - Certificate | Credential ID UC-1-PW87022**

SQL, 03/2019

**New York Real Estate Institute - New York, Ny**

Real Estate Agent, 05/2018

**License Solutions Scool of Real Estate - Los Angeles, CA**

09/2017

**LaGuardia Community College of the City University of New York - Long Island City, NY | GED**

07/2011

**LaGuardia Community College of The City University of New York - Long Island City, NY | Some College (No Degree)**

Liberal Arts And General Studies - Some College

**The City University of New York - CUNY Start - New York, NY | Some College (No Degree)**

Liberal Arts And General Studies - Some College