

John Paul Kee

Staff Software Engineer

☎ (917) 352-8303 @ jpk.121@outlook.com 🌐 www.linkedin.com/in/johnpaulkee 📍 Seattle, WA

SOFTWARE ENGINEER

Staff Software Engineer

Meta 07/2025 - 10/2025 Seattle, WA (remote)

- Led the design and implementation of an **AI-powered customer engagement and sales optimization platform** aimed at automating dealership operations, improving lead conversion, and enhancing customer retention. Leveraged **Ruby on Rails**, **Golang**, and modern **React**, **Angular**, and **Next.js** front-end technologies to build a scalable, high-performance system that streamlined workflows and elevated business outcomes.
- Increased lead conversion** by architecting a scalable **Ruby on Rails API** integrated with **OpenAI's GPT models**. Leveraged **NLP** for personalized customer communication and automated support, enhancing engagement and boosting sales productivity.
- Reduced lead-to-sale cycle time** by implementing an efficient **GraphQL layer** using **graphql-ruby** to minimize payload sizes for **React** and **Angular** front ends. Integrated **Elasticsearch** for rapid query performance, empowering dealerships with real-time sales insights.
- Enhanced real-time communication and system resilience** by implementing an **event-driven microservices architecture** using **Golang services** and **MQTT/Amazon MQ** message brokers. This improved inter-service communication and automated campaign workflows, cutting manual intervention.
- Delivered a seamless and responsive user experience** by developing a **Next.js** and **React-based dashboard**, incorporating **Angular Material** and **Tailwind CSS** for a unified, mobile-optimized interface—reducing onboarding time.
- Optimized data management and analytics** by integrating **PostgreSQL (Amazon RDS)** for new Rails services and tuning legacy SQL Server instances with indexing and partitioning, improving reporting performance.
- Provided technical leadership** across full-stack initiatives—mentoring engineers on **Ruby on Rails best practices**, **Golang service design**, and **frontend optimization** using modern frameworks.
- Streamlined CI/CD pipelines** with **GitHub Actions** and automated infrastructure provisioning through **Terraform**, deploying containerized **Rails** and **Go microservices on AWS ECS**, reducing operational overhead and improving release velocity.

Senior Software Engineer

Meta 04/2022 - 07/2025 Seattle, WA (remote)

- Led the design and development of a **payment recovery and customer retention platform** that enabled **subscription-based businesses** to reduce involuntary churn by automating **failed payment recovery**, **customer engagement**, and **analytics-driven insights**, significantly improving business retention metrics.
- Architected and implemented a **microservices-based backend system** using **Ruby on Rails** for core API services, **Golang** for high-performance microservices, and **Python (Pandas, NumPy)** for **data processing and analytics**, ensuring seamless integration with **third-party payment processors** such as **Stripe** and **PayPal**, while efficiently handling **high-throughput transaction processing**.
- Developed and optimized **RESTful APIs** and **event-driven services** using **Kafka** with **Sidekiq** for message queuing, enabling **real-time event tracking** for payment recovery workflows, customer interactions, and automated follow-up sequences, resulting in a **reduction in customer churn**.
- Designed and integrated **scalable database solutions** using **PostgreSQL (Active Record)** for structured data, **MongoDB** for semi-structured customer engagement history, and **Redis** for caching frequently accessed data, achieving a **improvement in query performance and system responsiveness**.
- Built a **dynamic and interactive React-based client dashboard** using **React (Hooks, Redux, Material UI)** with **data visualization** powered by **D3.js** and **Chart.js**, allowing clients to track recovery metrics, payment trends, and customer engagement in real-time, while leveraging **React Query** for efficient API data fetching and state management.
- Led a team of **8+ engineers**, conducting detailed **code reviews**, mentoring **junior developers**, and establishing **best practices** in **API design**, **automated testing (RSpec, Minitest)**, and documentation, fostering a **high-performance engineering culture** that increased development velocity.
- Enhanced **system scalability, reliability, and deployment efficiency** by leveraging **Docker** for containerization, **Kubernetes** for orchestrating microservices, and **Jenkins** for **CI/CD automation**, reducing deployment times by while maintaining **high availability across AWS infrastructure**.
- Implemented robust **security and compliance measures** by integrating **OAuth2** and **JWT authentication** for secure API access, ensuring **PCI DSS compliance** for handling sensitive payment data, and enforcing **best practices in data encryption and access control**.
- Developed and maintained **monitoring and logging solutions** using **AWS CloudWatch**, **Prometheus**, and **Loki** for log aggregation, enabling **proactive issue detection** and reducing **system latency** by through real-time **performance optimization**.

SUMMARY

Senior Full-Stack Engineer with over **10** years of experience designing, developing, and optimizing highly scalable applications. Specializing in robust backend systems built with **Ruby on Rails**, **Sinatra**, and **Golang** with deep expertise in database management (**PostgreSQL**, **MySQL**, **MongoDB**), cloud-native architecture (**AWS**, **Azure**), and microservices. Complemented by strong front-end skills in **React**, **Next.js**, and **Angular**. Proven ability to lead and mentor engineering teams to deliver high-performance solutions in Agile environments.

PROJECTS

Healthcare Communication and Marketing Platform

Led the development of a **HIPAA-compliant healthcare communication and marketing platform** designed to enable medical providers and healthcare organizations to engage with patients securely through automated campaigns, appointment reminders, and health-related notifications.

- Developed and maintained backend services using **Ruby on Rails**, leveraging **Rails API** mode for **RESTful API** development, **Active Record** for database interactions, and high-performance **Golang** microservices to efficiently handle patient communication workflows and appointment scheduling.
- Designed a secure authentication and authorization system using **Devise**, **Doorkeeper (OAuth2)**, **JWT**, and **AWS Cognito**, enabling multi-level user access control while ensuring **HIPAA compliance** for handling protected health information (**PHI**).
- Built and optimized **RESTful APIs** for managing patient engagement, marketing campaigns, and automated reminders, integrating **PostgreSQL (Active Record)** for relational data management, **Redis** for caching, and **AWS S3** for secure file storage, improving data availability and system performance.
- Developed and maintained an **Angular-based** frontend using **Angular 14+**, **RxJS**, **Angular Material**, and **NgRx** for state management, providing healthcare administrators with an intuitive dashboard for managing patient communications, scheduling, and analytics.

AI-Driven Email Marketing & Customer Engagement Platform

- Contributed to the enhancement of Mailchimp's **AI-powered email marketing platform**, improving automation, analytics, and customer engagement capabilities for businesses of all sizes.
- Developed and optimized backend services using **Ruby on Rails**, integrating **GraphQL** and **RESTful APIs** for dynamic data fetching, improving the efficiency of email campaign creation, personalization
- Built scalable data processing pipelines using **Golang** and **AWS Lambda**, enabling real-time data aggregation and predictive analytics for customer segmentation, increasing marketing effectiveness.
- Implemented advanced email automation workflows by integrating **Kafka** with **Rails ActiveJob** and **Sidekiq**, ensuring real-time campaign triggers and personalized email sequences.
- Designed and built a responsive **React-based** user dashboard using **React (Hooks, Redux, Material UI, and React Query)**, providing marketers with intuitive tools for campaign tracking, performance analytics, and A/B testing.
- Enhanced platform scalability and deployment automation by implementing **Kubernetes** for microservices orchestration, **Terraform** for infrastructure as code (IaC), and **GitHub Actions** for CI/CD, reducing deployment time

Senior Software Engineering Manager

Microsoft 03/2022 - 04/2022 Redmond, WA (remote)

- Developed and optimized **backend services** using **Ruby on Rails** for a **data analytics platform**, enabling **real-time financial insights** by efficiently processing **large-scale datasets** for enterprise clients.
- Built and maintained **RESTful APIs** in **Rails API mode**, integrating **PostgreSQL (Active Record)** and **Redis** to improve **data retrieval efficiency**, support **high-throughput financial reporting**, and ensure scalability across multiple enterprise systems.
- Implemented **ETL pipelines** using **Ruby (Sidekiq, ActiveJob)** and **AWS Lambda**, automating **data ingestion, transformation, and storage**, which reduced processing time and enhanced the platform's **real-time analytics capabilities**.
- Developed a **React-based dashboard** utilizing **React Hooks, Redux, and Material UI** to visualize complex financial insights, integrating **Chart.js** and **D3.js** for **interactive data visualizations**, while optimizing **UI performance** with **lazy loading** and **memoization**.
- Collaborated closely with **stakeholders and product managers** to refine feature requirements, optimize **data visualization strategies**, and ensure the platform consistently met **business needs** for **real-time financial analytics and reporting**.

Software Engineering Manager

Microsoft 04/2021 - 03/2022 Redmond, WA (remote)

- Led the design and development of a **digital signage and content management platform** for businesses to manage and schedule multimedia content across distributed displays, ensuring seamless media playback, real-time updates, and secure content distribution.
- Designed and implemented backend services using **Ruby on Rails**, leveraging **Rails API** mode for RESTful API development, **ActionCable** for WebSockets, **Devise + Pundit** for authentication and authorization, **Active Record** for database persistence, and **Sidekiq** for automated publishing workflows, enabling real-time content scheduling, remote display management, and automated publishing.
- Optimized **PostgreSQL (Active Record)** for metadata storage and **AWS S3** for media asset management, implementing **Redis** caching with **Rails Cache** to reduce content retrieval latency and enhance overall system responsiveness.
- Developed **role-based access control (RBAC)** and authentication using **JWT** and **OAuth2**, securing user access and enabling multi-tenant support for enterprise clients managing large signage networks.
- Implemented background job processing using **Sidekiq** (Redis-based queue) and **ActiveJob** to handle scheduled content publishing, remote screen health checks, and media synchronization, improving platform efficiency and scalability.
- Built and optimized an interactive **React** dashboard (**Hooks, Redux, Material UI**), allowing users to upload, schedule, and preview content, enhancing user experience with lazy loading and code splitting.
- Mentored junior developers on best practices in Ruby, API design, database optimization, and front-end performance improvements, conducting code reviews and knowledge-sharing sessions to elevate team productivity.
- Deployed and maintained AWS-based cloud infrastructure (**EC2, Lambda, API Gateway, CloudWatch**), utilizing **Docker** for containerization and **Jenkins** for CI/CD automation, ensuring high availability and seamless rollouts.

Software Engineer ||

Microsoft 04/2019 - 2021 Redmond, WA (remote)

- Developed backend services using Ruby on Rails for a **small-scale eCommerce platform**, building **Rails APIs** to manage product listings, shopping carts, and order processing, ensuring a seamless customer experience.
- Integrated **Stripe API** for secure payment processing, handling transactions, refunds, and subscription billing while ensuring **PCI compliance** and encrypted tokenized payments.
- Optimized database performance by structuring **PostgreSQL** schemas, implementing indexed queries and Redis caching with **Rails Cache**, reducing query response times and improving checkout efficiency.
- Designed an order fulfillment system using **Sidekiq** (Redis-based job queue) and **ActiveJob**, processing background tasks such as inventory updates, automated email confirmations (**SendGrid**), and shipping status updates, enhancing system reliability and scalability.
- Deployed and monitored services on **AWS**, utilizing **EC2, S3, API Gateway**, and **CloudWatch** for scalability, storage, and real-time monitoring, ensuring uptime and handling peak shopping periods efficiently

Software Engineer

Microsoft 08/2017 - 08/2019 Redmond, WA (remote)

- Developed backend services using Ruby on Rails for a **small-scale eCommerce platform**, building **Rails APIs** to manage product listings, shopping carts, and order processing, ensuring a seamless customer experience.
- Integrated **Stripe API** for secure payment processing, handling transactions, refunds, and subscription billing while ensuring **PCI compliance** and encrypted tokenized payments.

Programming Languages

Ruby	Golang	Python	JavaScript (ES6+)
TypeScript	SQL		
Frontend			
React	Hooks	Redux	Material UI
Angular	RxJS	NgRx	Angular Material
Hotwire/Turbo	Stimulus	ERB	HAML
Slim	Bootstrap	Tailwind CSS	

Backend Engineering

Ruby on Rails	Sinatra	Hanami	Roda
Microservices Architecture	RESTful APIs		
GraphQL	WebSockets	gRPC	OAuth2
JWT	OpenAPI/Swagger	Sidekiq	Resque
Sneakers	Redis	Dry-Rb	

Database Management

PostgreSQL	MySQL	MongoDB	
SQL Server	Cassandra	Oracle	Redis
CouchDB	Database Query	Optimization	
Indexing	Partitioning	Replication	
Sequel	Active Record	Rails Migrations	

Cloud Platforms and DevOps

AWS	EC2	S3	Lambda	RDS
DynamoDB	API Gateway	CloudWatch		
SNS	SQS	Azure	App Services	
CosmosDB	Azure Functions	Kubernetes		
Docker	Terraform	Jenkins		
GitHub Actions	GitLab CI/CD	SonarQube		

Q/A Testing

RSpec	Minitest	Capybara	Selenium
Cucumber	VCR	WebMock	FactoryBot
Pact			

Software Engineer

Microsoft 08/2017 - 08/2019 Redmond, WA (remote)

- Optimized database performance by structuring **PostgreSQL** schemas, implementing indexed queries and Redis caching with **Rails Cache**, reducing query response times and improving checkout efficiency.
- Designed an order fulfillment system using **Sidekiq** (Redis-based job queue) and **ActiveJob**, processing background tasks such as inventory updates, automated email confirmations (**SendGrid**), and shipping status updates, enhancing system reliability and scalability.
- Deployed and monitored services on **AWS**, utilizing **EC2**, **S3**, **API Gateway**, and **CloudWatch** for scalability, storage, and real-time monitoring, ensuring uptime and handling peak shopping periods efficiently.

Software Developer Internship

SAP 09/2015 - 08/2016 Vancouver, British Columbia

- Developed and maintained automated test scripts using **Selenium WebDriver** (Ruby - **RSpec**, **Capybara**, **Watir**) and **Appium** (for Android/iOS), integrating with **Minitest** for unit testing and **Bundler** for dependency management, reducing manual regression testing.
- Designed and executed API tests for **RESTful** and **SOAP** services using **Postman**, **RSpec API** testing (**HTTParty**), and **SoapUI**, implementing **OAuth2** and **JWT** authentication validation, response payload verification, and contract testing with JSON Schema.
- Integrated automated testing into CI/CD pipelines using **Jenkins** and **GitHub Actions**, setting up nightly test runs with **Allure** reports, automating execution on **Selenium Grid**, and ensuring early bug detection through continuous test execution.
- Investigated and resolved test failures by analyzing browser console logs, API request logs, and database records (PostgreSQL, MongoDB), debugging network traffic using **Charles Proxy** and **Fiddler** to identify root causes and improve defect resolution.
- Performed load and performance testing using **Artillery** and **k6**, simulating concurrent users, monitoring system performance, and optimizing API response times by addressing bottlenecks in database queries and backend logic.
- Assisted in developing and maintaining native Android applications using **Java**, **Android SDK**, and **XML**, implementing core features such as **activity lifecycle management**, **UI components**, and **custom views**, while ensuring smooth performance across a range of Android devices.
- Developed and optimized Android applications with **API integrations**, **local storage management**, and **background task handling** to ensure smooth performance and data synchronization.
- Improved **UI/UX** and app responsiveness by implementing **modern design principles**, **efficient layouts**, and **performance optimizations**.

SKILLS

Version Control

Git	GitHub	GitLab	Bitbucket
-----	--------	--------	-----------

Collaboration and Methodologies

Jira	Slack	Microsoft Teams	Agile/Scrum
SOLID Principles	DDD	BDD	TDD
OOP	Clean Code		

Soft Skills

Technical Leadership	Mentorship
Effective Communication	Collaboration
Problem-solving	Decision-making
Adaptability	Time Management
Conflict Resolution	Attention to detail

EDUCATION

Bachelor’s Degree in Computer Science

The University of British Columbia / UBC

2012 - 2017

LANGUAGES

English Native ●●●●●