

John Paul Kee

Staff Software Engineer

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📍 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.

SOFTWARE ENGINEER

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)

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SKILLS

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**

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

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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 (**HTTPParty**), 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

