

# CURRICULUM VITAE

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## Professional Summary

Senior Ruby on Rails Engineer with 9+ years of experience architecting, building, and scaling high-performance, production-grade web applications. Deep expertise in backend engineering, system design, and PostgreSQL optimisation, with a strong focus on reliability, scalability, and maintainability. Proven track record of designing clean, efficient architectures, optimising application performance, and solving complex engineering challenges in high-traffic environments.

Highly skilled in API design, distributed systems thinking, concurrency handling, and database performance tuning, with hands-on experience in threading models, memory optimisation, and caching strategies (Redis, background job processing). Strong advocate of clean code, modular design, and engineering best practices, ensuring long-term system health and developer productivity.

Experienced in leading technical initiatives, making architecture-level decisions, and mentoring teams to deliver high-quality software. Adept at translating business requirements into robust, scalable technical solutions while balancing trade-offs between performance, cost, and complexity. Passionate about building resilient systems, improving observability, and continuously evolving architectures to meet growing product and user demands.

## Core Strengths

**Technical Leadership:** Leads architecture and design decisions with a focus on scalability, performance, and maintainability

**Problem Solving:** Diagnoses and resolves complex production issues with strong root-cause analysis

**System Thinking:** Designs modular, scalable systems with clear boundaries and efficient data flow

**Performance Optimisation:** Improves system throughput, reduces latency, and optimises database performance

**Collaboration & Mentorship:** Mentors developers, conducts code reviews, and drives engineering best practices

**Communication:** Clearly articulates technical concepts, trade-offs, and system designs to diverse stakeholders

**Ownership:** Takes end-to-end responsibility for systems, ensuring reliability, quality, and continuous improvement

**Adaptability:** Quickly adapts to evolving technologies, product requirements, and scaling challenges

# Technical Skills

## Languages & Frameworks:

Ruby, Ruby on Rails (9+ years), JavaScript (working knowledge), TypeScript (basic), HTML5, CSS3, Hotwire (Stimulus, Turbo)

## Backend Architecture & Design:

API-first architecture, RESTful APIs, GraphQL, service-oriented architecture (SOA), domain-driven design (DDD), event-driven architecture, microservices, modular monolith design, API versioning, contract design

## Eventing & Messaging Systems:

Event-driven systems, asynchronous workflows, message queues, pub/sub patterns, event orchestration, Sidekiq, ActiveJob, Redis, RabbitMQ, background job processing, retry & idempotency strategies

## Databases & Data Engineering:

PostgreSQL, MySQL (*advanced query optimisation, indexing, transactions, locking, isolation levels, connection pooling*)

## Caching & Performance Optimisation:

Redis, Memcached, fragment caching, low-latency system design, N+1 query elimination, eager loading, query profiling

## System Design & Scalability:

Distributed systems, high-throughput architectures, fault tolerance, horizontal scaling, load balancing, rate limiting, circuit breakers, backpressure handling

## Cloud & DevOps:

AWS (*EC2, RDS, S3, CloudWatch, IAM*), Docker, Kubernetes, CI/CD pipelines, Capistrano, infrastructure basics, deployment strategies

## Observability & Debugging:

Datadog, New Relic, Sentry, centralised logging, metrics, APM, performance monitoring, production debugging, root cause analysis

## Testing & Quality Engineering:

RSpec, FactoryBot, Capybara (*basic*), unit testing, integration testing, TDD practices

## Version Control & Collaboration:

Git, GitHub, GitLab, code reviews, branching strategies, collaborative development

## Security Practices:

Authentication & authorisation, OAuth2, JWT, secure API design, XSS/CSRF protection, SQL injection prevention, data security best practices

## Development Practices & Tools:

Agile, Scrum, SDLC, clean architecture, design patterns, modular design, code quality, RVM, Bundler, Yarn

# Educational Qualifications:

## Master of Computer Applications (MCA)

Maharaja Ranjit Singh College of Professional Studies, Indore

CGPA: 7.4 | Year: 2016

## Bachelor of Computer Applications (BCA)

Devi Ahilya Vishwavidyalaya, Indore

Percentage: 66.33% | Year: 2014

## Higher Secondary Certificate (HSC)

M.P. Board

Percentage: 74%

## Higher Secondary School Certificate (HSSC)

M.P. Board

Percentage: 59%

# Experience:

## Associate Tech Architect

[\*Bounteous x Accolite\*](#)

May 2025 – November 2025

- ◆ Defined and drove **backend architecture strategy** aligned with business goals, focusing on scalability, performance, and long-term maintainability
- ◆ Designed and implemented **high-performance, scalable systems**, improving reliability and optimising resource utilisation in production environments
- ◆ Introduced **event-driven and modular architecture patterns**, reducing system coupling and improving extensibility
- ◆ Evaluated and standardised **technology stack, tools, and best practices**, enhancing developer productivity and system resilience
- ◆ Led **architecture reviews and code quality initiatives**, ensuring adherence to clean architecture, security standards, and design principles
- ◆ Mentored engineers on **system design, performance tuning, and scalable coding practices**, improving overall engineering quality
- ◆ Collaborated with stakeholders to **translate complex business requirements into robust technical solutions**, balancing scalability, cost, and delivery timelines
- ◆ Identified and resolved **performance bottlenecks**, improving system throughput, latency, and overall stability

## Senior Software Engineer

[\*Builder AI\*](#)

November 2023 – May 2025

- ◆ Delivered **high-impact backend features and critical bug fixes** in production systems, improving application stability and user experience
- ◆ Led **third-party integrations with multiple storage providers**, designing reliable and scalable integration layers with robust error handling and retries
- ◆ Designed and implemented **complex business logic and workflows**, aligning system behaviour with evolving product and operational requirements
- ◆ Collaborated closely with Product and stakeholders to **refine requirements, define technical scope, and ensure predictable delivery timelines**
- ◆ Introduced **scalable architectural improvements**, enhancing system maintainability,

- modularity, and long-term extensibility
- ◆ Optimised system performance by **identifying bottlenecks and improving query efficiency, caching strategies, and background job processing**
- ◆ Mentored and guided offshore teams, ensuring **alignment with architecture standards, code quality, and timely delivery**

## Ruby on Rails Developer

[NextPoint](#)

May 2023 – October 2023

- ◆ Delivered **feature enhancements and bug fixes** across core backend modules, improving application stability and usability
- ◆ Optimised backend logic and database interactions, **reducing response times and improving overall system efficiency**
- ◆ Designed and implemented **automated workflows and business rules**, minimising manual intervention and improving operational consistency
- ◆ Built and refined **RESTful APIs**, ensuring clean contracts and seamless integration with frontend systems
- ◆ Contributed to **code quality and development standards**, promoting best practices and maintainable code structures
- ◆ Collaborated with cross-functional and offshore teams to **ensure alignment on requirements, timelines, and deliverables**

## Ruby on Rails Consultant

[Capgemini](#)

May 2021 – April 2023

- ◆ Developed and delivered **robust backend features** for consumer-facing applications, ensuring reliability and consistency in production
- ◆ Built and maintained **scalable Ruby on Rails APIs**, supporting high-traffic usage with efficient request handling
- ◆ Implemented **complex business logic and domain workflows**, improving operational efficiency and system accuracy
- ◆ Collaborated with Product teams to **prioritize features and streamline release cycles**, ensuring timely and predictable delivery
- ◆ Performed **code reviews and guided junior developers**, improving code quality and adherence to engineering standards
- ◆ Worked across distributed teams to **coordinate development efforts and maintain alignment on technical implementation**

## Senior Solution Engineer

[Gammastack](#)

June 2020 – April 2021

- ◆ Delivered **end-to-end features** for consumer-facing applications using Ruby on Rails, ensuring performance and reliability in production
- ◆ Designed and developed a **configurable landing page platform**, improving flexibility for marketing use cases and user engagement
- ◆ Implemented **rule-based logic and decision workflows**, enabling dynamic behavior aligned with business requirements
- ◆ Improved system performance through **testing, profiling, and incremental optimizations**, enhancing scalability and responsiveness
- ◆ Established **efficient collaboration processes** with distributed teams, ensuring smooth coordination and timely feature delivery

## Ruby on Rails Developer

[Cyber Infrastructure](#)

June 2016 – June 2020

- ◆ Developed and maintained **multiple Ruby on Rails applications**, delivering end-to-end features across diverse business domains
- ◆ Built **scalable backend components and APIs**, supporting data-intensive workflows and growing user demands
- ◆ Optimized application performance through **efficient database queries, indexing, and code-level improvements**
- ◆ Collaborated with Product Managers and UX teams to **translate requirements into functional, user-centric solutions**
- ◆ Ensured code quality through **testing, debugging, and adherence to development best practices**
- ◆ Contributed to **system stability and maintainability** by refactoring legacy code and improving existing modules

## Project Highlights:

### Real-Time Team Collaboration Platform (Chat Application)

A scalable, real-time collaboration platform similar to Slack, designed to support thousands of concurrent users across multiple workspaces with low-latency messaging, presence tracking, and reliable message delivery. The system leverages WebSocket-based communication and distributed backend components to ensure high availability and a seamless user experience.

- Architected a **real-time messaging system using WebSockets (ActionCable) with Redis pub/sub**, enabling low-latency communication
- Designed backend for **multi-tenant workspace, channel, and user communication models**
- Implemented **message delivery workflows with retry mechanisms and eventual consistency handling**
- Built **scalable background processing pipelines using Sidekiq** for notifications and async tasks
- Optimised performance using **Redis caching, efficient querying, and connection management strategies**
- Designed a system to handle **high concurrency and horizontal scaling constraints**
- Integrated AWS S3 for **secure file storage and media sharing**
- Improved frontend responsiveness using **Turbo/Stimulus for near real-time UI updates**
- Ensured system reliability through **logging, monitoring, and production debugging practices**

### Online Ticket Booking Platform (BookMyShow-like)

A high-concurrency, distributed ticket-booking system designed to handle peak-traffic scenarios, such as flash sales and movie releases. The platform supports real-time seat selection, booking, and payment processing while ensuring strong consistency, fault tolerance, and high availability under heavy load. The system is optimised to prevent overbooking and maintain data integrity across distributed services.

- Designed and implemented **seat locking and reservation workflows** with time-bound locks to prevent race conditions and double booking
- Built **concurrency control mechanisms** using distributed locking and transactional guarantees
- Architected **event-driven workflows** for booking, payment processing, and notification handling
- Ensured **transaction consistency using rollback strategies, idempotent operations, and failure recovery mechanisms**
- Designed **high-throughput booking pipelines** capable of handling peak traffic and burst loads
- Implemented **caching strategies (Redis)** to reduce database load during high-demand scenarios

- Built **asynchronous processing using queues and background jobs** for non-blocking operations
- Designed a system for **fault tolerance and graceful degradation under partial failures**
- Optimised database interactions using **indexing, query tuning, and connection management**
- Ensured high availability through **scalable architecture and load distribution strategies**

## E-commerce Order Processing & Inventory Platform ([Sephora](#))

A large-scale, distributed e-commerce backend platform designed to handle millions of users and high transaction volumes across order processing, inventory management, and payment workflows. The system was re-architected from a tightly coupled monolithic Rails application into a microservices-based, event-driven architecture to improve scalability, fault tolerance, and operational efficiency across critical domains such as Orders, Payments, and Inventory.

- Led end-to-end migration from **monolithic architecture to domain-driven microservices**, improving scalability and service isolation
- Designed **event-driven architecture using Apache Kafka**, enabling asynchronous communication between Order, Payment, and Inventory services
- Implemented **idempotent consumers, retry strategies, and dead-letter queues** to ensure reliable and consistent message processing
- Built **high-throughput asynchronous pipelines** using Kafka consumers and Sidekiq for order lifecycle processing
- Optimised PostgreSQL using **partitioning, indexing, and read replicas**, reducing query latency by ~60% under load
- Designed **inventory synchronisation mechanisms** to maintain consistency across distributed services
- Implemented **caching and rate-limiting strategies using Redis** to handle peak traffic efficiently
- Containerised services using Docker and deployed on **Kubernetes (EKS)** with auto-scaling and rolling deployments
- Established **CI/CD pipelines and observability (metrics, logging, monitoring)** for production reliability
- Improved system resilience by designing for **failure handling, service retries, and graceful degradation**

## Real-Time Financial Transaction & Risk Monitoring System ([Inai](#))

A fault-tolerant, distributed financial system designed to process high-volume transactions in near real-time while detecting fraud patterns and ensuring strong consistency, auditing, and reliability. The platform handles mission-critical financial workflows with strict correctness guarantees, leveraging event-driven architecture and scalable microservices to support high throughput and secure transaction processing.

- Architected **event-driven transaction workflows using AWS SNS/SQS**, decoupling transaction processing, fraud detection, and notification services
- Designed microservices handling **high-throughput financial transactions with strong consistency and audit requirements**
- Implemented **idempotent processing, retry strategies, and failure recovery mechanisms** to ensure reliable execution
- Built **fault-tolerant pipelines with at-least-once delivery guarantees**, ensuring no transaction loss
- Designed **transaction lifecycle management with validation, risk checks, and audit trails**
- Integrated **distributed tracing (OpenTelemetry) and centralised logging** for production debugging and observability

- Improved throughput using **asynchronous processing and Redis-based caching strategies**
- Designed a **multi-region deployment architecture on AWS**, ensuring high availability and disaster recovery
- Optimised system reliability through **graceful failure handling and backpressure management**

## Multi-Tenant SaaS Learning & Assessment Platform ([Aquifer](#))

Aquifer is a dynamic virtual teaching and learning platform that enables students to build foundational knowledge and clinical reasoning skills for patient care and high-stakes exams. The system is designed to support large-scale online assessments with real-time analytics, handling thousands of concurrent users per tenant while ensuring strong data isolation, low-latency processing, and high reliability in exam-critical scenarios.

- Designed a **multi-tenant architecture using schema-based isolation**, ensuring secure data separation and scalable onboarding of institutions
- Built **event-driven workflows using RabbitMQ** for asynchronous evaluation, result computation, and notification delivery
- Engineered system to handle **high-concurrency exam submissions**, ensuring consistency and minimal latency under peak load
- Led evolution toward **modular/microservices architecture**, improving scalability and maintainability
- Designed **low-latency APIs for test generation, submission, and real-time analytics processing**
- Integrated **Elasticsearch for large-scale search, analytics, and performance insights**
- Deployed services on **Kubernetes with auto-scaling**, optimising resource utilisation across varying workloads
- Improved performance using **query optimisation, caching strategies, and efficient data access patterns**
- Ensured system reliability through **asynchronous processing, retry mechanisms, and failure handling strategies**

## Legal Litigation & eDiscovery Platform ([Nextpoint](#))

A SaaS-based legal platform designed to manage large volumes of litigation documents, streamline case workflows, and enable secure collaboration among legal teams. The system supports document ingestion, tagging, advanced search, and access control, handling large-scale datasets with performance, reliability, and compliance considerations.

- Designed backend systems for **document ingestion, tagging, and workflow orchestration** across legal case lifecycles
- Implemented **Elasticsearch-based search and indexing**, enabling fast and relevant retrieval across large document datasets
- Built **scalable file handling pipelines** using AWS S3 for secure storage and retrieval
- Optimised performance through **query tuning, indexing strategies, and caching mechanisms**
- Improved system reliability via **testing, monitoring, and code quality practices**
- Designed **role-based access control and secure data handling workflows** for sensitive legal information
- Enhanced system scalability to support **large document volumes and concurrent user operations**

## Telecom Customer Management Platform ([Smarty](#))

A high-traffic telecom platform enabling users to explore plans, place SIM orders, track deliveries, activate services, and manage account operations. The system handles large volumes of concurrent users and integrates multiple backend services to ensure reliable order processing, account management, and real-time status updates.

- Developed **scalable RESTful APIs** for order lifecycle management, plan selection, SIM activation, and account operations
- Designed and implemented **authentication and authorisation mechanisms using JWT**, ensuring secure access control
- Built **asynchronous workflows using Sidekiq** for order processing, notifications, and background tasks
- Optimised system performance through **query tuning, caching strategies, and efficient API design**
- Improved system reliability by **identifying and resolving production issues**, enhancing stability under high load
- Worked on **integration with external telecom services and internal systems**, ensuring seamless data flow
- Contributed to **large-scale distributed system development**, collaborating across teams for consistent delivery

## E-Auction Platform ([MarketDojo](#))

An enterprise-grade procurement platform enabling organisations to conduct real-time auctions with dynamic bidding, supplier participation, and complex workflow management. The system supports live bidding scenarios, questionnaire-based procurement, and reporting, requiring low-latency updates, strong consistency, and scalable backend processing.

- Designed and implemented a **real-time bidding system using WebSockets**, enabling low-latency bid updates across multiple participants
- Engineered **concurrency-safe bidding workflows**, ensuring correct bid ordering and preventing race conditions during high activity
- Built backend for **auction lifecycle management** (creation, scheduling, live bidding, closure, and result processing)
- Implemented **role-based access control and authorisation workflows** for enterprise users and suppliers
- Designed **event-driven updates and background processing** for notifications, bid tracking, and reporting
- Optimised system performance using **efficient querying, caching strategies, and async processing**
- Improved system maintainability through **code refactoring, modular design, and best practices adoption**
- Collaborated with stakeholders and clients to deliver **custom procurement workflows and feature enhancements**

## Sports Fantasy Platform

A real-time fantasy sports application enabling users to create teams, participate in contests, and handle secure betting and transaction workflows. The system supports live interactions and integrates external data sources for game-related updates.

- Implemented **core betting logic and transaction workflows**, ensuring accurate processing of user actions
- Integrated **third-party sports APIs and payment gateways**, enabling real-time data and secure transactions
- Ensured **data consistency and secure authentication mechanisms** across user operations
- Built backend systems supporting **real-time interactions and contest management**
- Contributed to improving system stability through **bug fixes and performance optimisations**

## Hospital Management System

A healthcare management platform designed to handle patient records, appointments, and hospital operations, including reporting and financial tracking. The system supports structured data management and improves operational efficiency for clinics and hospitals.

- Implemented **patient records and medical workflow management**, enabling structured storage of patient history and reports
- Built **financial tracking and reporting modules** for managing billing and operational data
- Developed reporting features using **XLSX generation** for data export and analysis
- Improved system usability through **enhancements in data handling and workflow processes**
- Contributed to overall system stability with **bug fixes and feature improvements**

## Restaurant Management & Ordering System

A backend system designed to manage restaurant operations, including menu management, online ordering, delivery tracking, and table handling. The platform supports end-to-end order workflows and integrates external services for location, notifications, and payments.

- Designed and implemented **backend architecture from scratch**, defining core data models and workflows
- Built **order lifecycle and delivery tracking systems**, managing order placement to fulfilment
- Integrated **Google Maps for location services and Twilio for notifications**, enabling real-time updates
- Implemented **secure payment processing workflows** for handling customer transactions
- Improved system functionality through **feature enhancements and performance optimisations**

Year: 2026

**Ankit Khandelwal**