

Raghav Kumar Singh

Backend Software Engineer • Ruby on Rails • REST API • EV Charging Infrastructure

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Professional Summary

Backend Software Engineer with 2+ years of experience designing and shipping production-grade APIs, payment integrations, and EV charging infrastructure platforms using Ruby on Rails. Deep expertise in REST API development, OCPP-based charging session management, Razorpay/UPI payment pipelines, microservices architecture, and Elasticsearch-driven observability. Proven ability to deliver scalable, reliable backend systems in fast-paced Agile environments. Currently building mission-critical backend services for **TruePower by JioThings** (Enercent Technologies), India's leading end-to-end EV charging platform, serving consumers, charge-point operators, and enterprise clients.

Technical Skills

Languages	Ruby, Core Java, SQL
Frameworks	Ruby on Rails, REST API Development, Microservices Architecture, OOP, WebSockets (OCPP)
Databases	PostgreSQL, MySQL, Elasticsearch
Payments	Razorpay, Dynamic UPI QR, Webhook-based Reconciliation
Protocols / IoT	OCPP 1.6J, RFID Auth, Smart Charging, EV Session Lifecycle
Tools	Git, Linux, Postman, Docker (Basic), Agile (Scrum), Jira
Other	Logging & Monitoring, Billing Engines, Background Jobs, API Documentation

Professional Experience

Backend Software Engineer

Enercent Technologies Pvt. Ltd. (TruePower by JioThings)

Mar 2024 – Present

Bengaluru, India

TruePower by JioThings is India's leading end-to-end EV charging platform providing hardware, connectivity, and a smart charging management system (CSMS) for consumers, fleet operators, CPOs, and enterprises.

- Designed and built RESTful backend services for the **TruePower Home Charging** product, enabling residential EV owners to manage, schedule, and monitor home chargers through the TruePower mobile app.
- Developed the **Whitelist Management System** for enterprise and fleet clients, allowing operators to restrict charger access to authorised RFID/vehicle identifiers — improving network security and access control.
- Implemented **OCPP 1.6J-compliant** charge session lifecycle APIs covering charge point boot, authorisation, start/stop transaction, heartbeat, and status notification workflows.
- Integrated **Razorpay Dynamic UPI QR** payment system for real-time in-session payments — built end-to-end from QR generation through webhook-based payment verification and reconciliation pipelines.
- Built a **flexible billing engine** supporting multiple billing modes (time-based, energy-unit-based, and amount-based), enabling customised pricing plans for different host segments.
- Engineered **Elasticsearch-based logging and monitoring pipeline** for operational analytics, enabling real-time visibility into session health, charger uptime, and payment events.
- Developed pre-booking and advance reservation APIs, reducing queue wait times and improving charger utilisation for high-demand commercial stations.
- Collaborated with cross-functional teams (firmware, mobile, QA, client success) to deliver new product features end-to-end, from requirement scoping to production rollout.
- Participated in code reviews, sprint planning, and retrospectives in an Agile/Scrum environment, contributing to engineering best practices and team velocity.

Key Projects

TruePower Home Charging System *Ruby on Rails, PostgreSQL, OCPP 1.6J, REST API*

- Built backend APIs powering the residential EV home charging product, including charger onboarding, real-time status, remote start/stop, and charge scheduling.
- Implemented RFID-based plug-and-play authentication, enabling seamless charging without manual app intervention.

Whitelist Management System *Ruby on Rails, PostgreSQL, REST API*

- Designed an access-control system allowing CPOs and enterprise clients to whitelist authorised users/vehicles per

charge point or station group.

- Reduced unauthorised usage incidents and provided operators a self-service portal for managing access policies.

EV Charging Session Management Platform *Ruby on Rails, OCPP 1.6J, WebSockets, PostgreSQL*

- Designed APIs managing the full EV session lifecycle — boot notification, authorisation, transaction start/stop, meter values, and status updates.
- Supported pre-booking workflows allowing users to reserve charger slots in advance, reducing conflict resolution overhead by streamlining availability logic.

Dynamic UPI QR Payment Integration *Razorpay API, Webhooks, Ruby on Rails, PostgreSQL*

- Developed real-time QR payment processing using Razorpay's dynamic QR APIs, tied directly to active charge sessions.
- Built idempotent webhook handlers for payment verification and automated reconciliation to ensure zero revenue leakage.

Logging & Monitoring Pipeline *Elasticsearch, Ruby on Rails, REST Webhooks*

- Constructed webhook-based data ingestion APIs feeding structured event logs into Elasticsearch.
- Enabled operator dashboards with real-time analytics: session KPIs, payment success rates, charger fault detection, and energy consumption trends.

Education

B.Tech in Computer Science & Engineering	2019 – 2023
CIT Ranchi, Jharkhand University of Technology	CGPA: 8.90 / 10

Diploma in Engineering	2017 – 2020
XIPT, Jharkhand University of Technology	74.74%

Matriculation (10th), CBSE	2017
KV Namkum	CGPA: 6.8 / 10

Certifications

- **Core Java** – Internshala Trainings

Additional Information

Domain Expertise	EV Charging Infrastructure, IoT Backend Systems, Payment Integrations, Energy Management Platforms
Industry Keywords	OCPP, CSMS, CPO, EV Fleet Management, Smart Charging, RFID, UPI Payments, Microservices, API-first
Languages Spoken	Hindi (Native), English (Professional)