

SAI SANATH

Technical Lead @ Head Digital Works | Node.js • ReactJS • AWS • Kafka • MongoDB

Software Architecture • Team Leadership • Mentorship • Problem Solving

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PROFESSIONAL SUMMARY

Dynamic Technical Lead with 9+ years of experience at Head Digital Works Pvt. Ltd., building and scaling real-time gaming and sports platforms serving 1M+ concurrent users. Expert in Node.js, ReactJS, AWS microservices, and event-driven architecture. Proven track record in user authentication, KYC compliance, payment systems, and fraud detection. Led and mentored cross-functional engineering teams while maintaining 99.9% uptime across high-concurrency production systems.

PROFESSIONAL EXPERIENCE

Technical Lead • Head Digital Works Pvt. Ltd., Bangalore

03/2019 – Present

▶ A23 Rummy & Poker — Authentication, KYC, Payments & Real-Time Gaming

- **Users Login & Authentication:** Implemented multi-channel SMS OTP via Kaleyra & SMS Striker; WhatsApp OTP via Gupshup; Social Login (Google/Facebook OAuth); end-to-end JWT Token Management with refresh token rotation.
- **KYC & Fraud Detection:** Integrated Hyperverge, Signzy, and VerifyU for automated KYC with image recognition-based fraud pipeline and limit scoring to flag/block suspicious identities.
- **Bank Validation:** Penny drop bank account validation via Justpay; real-time IFSC code lookup using Cashfree API.
- **Payments:** Microservices (Justpay, Razorpay) processing 50K+ daily transactions at 99.9% uptime with zero payment failures.
- Migrated monolithic Node.js app to AWS ECS microservices, improving scalability 35% and reducing deployment time 40%.
- Implemented Redis distributed caching and connection pooling, reducing response times 45% for 100K+ concurrent players.
- Engineered Socket.IO WebSocket clusters with Kafka event streaming for live poker notifications — 500K+ events/minute.
- Managed Jenkins CI/CD pipelines and webhook systems enabling daily zero-downtime releases.

▶ Cricket Fantasy Platform — Points & Prize Distribution

- Architected real-time points engine processing 10M+ player actions per match across 50+ parameters at sub-100ms latency.
- Engineered winning calculation system for 100K+ virtual teams per contest with IPL-scale tie-breaker logic serving 1M+ users.
- Built distributed prize payout microservices (Razorpay) — automated Rs.50Cr+ payouts to 500K+ winners, 100% accuracy, zero disputes.
- Designed Kafka event pipeline (live score → points recalc → leaderboard refresh) cutting settlement time from 2 hours to 15 minutes.
- Implemented fraud detection layer — IP geofencing and player pattern analysis — flagging 2% suspicious entries, saving Rs.25L+.
- Optimized MongoDB time-series collections for 50GB+/season match data — achieved 99.99% data consistency across distributed leaderboards.
- Enforced KYC, age verification, cash limit controls, and game-level security measures platform-wide.

▶ Cricket.com — Real-Time Sports Analytics Platform

- Led 10-engineer team building real-time sports APIs for 500K+ users; MongoDB schema optimizations cut query latency 30%.
- Engineered AWS Lambda serverless microservices handling 1M+ daily API requests during IPL peak — infrastructure costs cut 25%.
- Jenkins CI/CD + API Gateway integrations accelerated deployments 40%, halved production incident response time.
- Designed high-availability MongoDB clusters with automated failover maintaining 99.9% uptime across tournament seasons.

Software Engineer II • Globussoft Technologies Pvt. Ltd., Bangalore

08/2016 – 02/2019

▶ BusApp — Real-Time Bus Tracking Platform

- Built full-stack app (Node.js + ReactJS) for real-time GPS bus tracking, passenger counts, and live arrival alerts with customizable notifications.
- Implemented route/schedule information, upcoming bus arrival predictions, and user-friendly filter interface.

▶ Chingari — Social Entertainment Platform

- Developed server-side architecture for short-video platform supporting multiple formats; implemented unit/integration testing and collaborated cross-functionally.

PERSONAL PROJECTS

ShopToyota.ca — E-Commerce Platform · TEQNIRVANA / Leadpulse.io (01/2019 – 04/2019)

shoptoyota.ca

- Built from scratch using React.js (frontend) + Node.js (backend) for a live Toyota product site powered by Contentful CMS — all product catalogue, promotions, and content loaded headlessly from Contentful with minimal database dependency.
- Features include automated location maps, service pages, and mail templates; site live at shoptoyota.ca.

→ Stack: React.js · Node.js · Contentful CMS · Google Maps · Mail Templates

Realistan ServeEase — On-Demand Home Services Platform

Solo Full-Stack

- Full-stack marketplace (similar to Urban Company) — Next.js 14, Node.js/Express, MongoDB, Redis, Socket.io — with three isolated auth portals (customer, agent, admin) using JWT role-scoped tokens and Zustand state management.
- Real-time agent GPS tracking (Socket.io + Google Maps heatmap), AI service recommendations via Claude API with Redis caching, and Razorpay checkout composing coupon/loyalty/subscription/surge-pricing in a single pipeline.
- Double OTP service gate (AWS SNS/Kaleyra), S3 photo proof upload, dispute & refund workflow, corporate bulk booking with tiered discounts, and 34 Playwright E2E tests. (~60 API endpoints, 40+ pages, 121 files, 13K+ lines)

→ Stack: Next.js 14 · Node.js/Express · MongoDB · Redis · Socket.io · Google Maps · Razorpay · AWS S3/SNS · React Query · Playwright · Claude API · TypeScript

Realistan — Full-Stack Real Estate Platform

Solo Full-Stack

- No-brokerage property marketplace for Buy, Sell, Rent, Warehouse, and PG listings across Indian cities — built solo end-to-end covering frontend, backend, auth, search, and media infrastructure.
- OTP login (Kaleyra SMS) + Google/Apple OAuth, Elasticsearch property search, owner listing dashboard, and AWS S3 media — Next.js 14 App Router frontend backed by a secured Express REST API.

→ Stack: Next.js 14 · Express.js · MongoDB · Redis · Elasticsearch · Tailwind CSS · AWS S3 · Kaleyra SMS · Google/Apple OAuth

TECHNICAL SKILLS

Languages: Node.js, JavaScript, TypeScript, Python, ReactJS, Next.js

Cloud & DevOps: AWS (Lambda, EC2, ECS, API Gateway, DynamoDB, S3, CloudWatch), Docker, Kubernetes, Jenkins, CI/CD, Git

Databases: MongoDB, MySQL, DynamoDB, Redis, Elasticsearch

Frameworks & Tools: Express.js, Socket.IO, REST APIs, Apache Kafka, ReactJS, Next.js, Tailwind CSS

Auth & KYC: JWT, OAuth 2.0, Kaleyra, SMS Striker, Gupshup, Hyperverge, Signzy, VerifyU

Payments & Fintech: Razorpay, Justpay, Cashfree, Payment Gateway Architecture, Penny Drop Bank Validation

Architecture: Microservices, Distributed Systems, Serverless, High-Availability, Real-Time, Event-Driven

Leadership: Team Management (10+ engineers), Agile/Scrum, Code Reviews, Mentoring, Technical Documentation

KEY ACHIEVEMENTS

- Scaled gaming and sports platforms to 1M+ concurrent users with zero performance degradation.
- Automated Rs.50Cr+ in prize payouts with 100% accuracy and zero disputes across 500K+ winners.
- Reduced contest settlement time from 2 hours to 15 minutes via Kafka event-driven architecture.
- Built end-to-end KYC & fraud detection pipeline (Hyperverge, Signzy, VerifyU) — significantly reduced fraudulent registrations.
- Multi-channel login (SMS, WhatsApp, Social) — improved user onboarding conversion rate significantly.
- Cut infrastructure costs 25% and deployment time 40% through serverless architecture and CI/CD automation.
- Saved Rs.25L+ in fraudulent payouts via ML-assisted fraud detection and IP geofencing.
- Mentored 10+ engineers in AWS best practices, system design, and microservices architecture.

EDUCATION

Bachelor of Engineering — Computer Science & Engineering

2012 – 2016

Visvesvaraya Technological University, Bangalore