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Professional Summary

11+ years of engineering experience architecting distributed real-time systems and modernizing legacy platforms. Currently Associate Tech Lead and de facto architect for a live event streaming platform on AWS IVS, AppSync and WebSocket Lambdas, owning its architecture, load-testing program, readiness audit and DR plan. Previously led a 10+ year old Node.js platform from v6 to v14 with **3.4 million lines of code removed** and **zero downtime**. Enterprise clients include **Snapchat, Disney, and Rolls-Royce**.

Key Achievements at a Glance

3.4M lines of dead code removed	10 min developer onboarding	0 downtime during upgrades
66% file size reduction	v6 to v14 Node.js upgrade	20+ enterprise clients

Technical Skills

Architecture:	Distributed Systems, Microservices, Event-Driven & Real-Time Systems, Serverless, System Design (HLD/LLD), SLOs, Load Testing, Disaster Recovery
Languages:	JavaScript (ES6+), TypeScript, Python, HTML5, CSS3, SCSS
Frontend:	React 19, Next.js (App Router), Gatsby, React Native, Tailwind CSS, shadcn/ui, Storybook, React Query, Highcharts
Backend & Data:	Node.js 22, Express, Mongoose, MongoDB Atlas, Redis / ElastiCache (Valkey), REST APIs, GraphQL
AWS:	IVS, AppSync, API Gateway (WebSocket), Lambda, Cognito, MediaConvert, S3, CloudFront, Secrets Manager, ElastiCache, Amplify
DevOps & Testing:	Docker, Dev Containers, Turborepo, pnpm, Terraform, PM2, k6, Playwright, CI/CD, ELK / Logstash, Zabbix
Security:	Cognito OTP, SAML 2.0 / Azure AD SSO, CSP, reCAPTCHA, rate limiting, GDPR, ADA/WCAG
AI-Assisted Eng.:	Claude Code, MCP servers, custom agent skill authoring, agent-facing repo conventions (AGENTS.md), pinned skill lockfiles

Professional Experience

IDX (formerly Investis Digital)

Associate Tech Lead July 2015 - Present

- 11-year tenure with progressive growth: Web Producer, Software Engineer, Senior Software Engineer, Associate Tech Lead
- Serve as **de facto architect** and technical decision-maker for 4-engineer team, reporting to the CTO
- Own architecture reviews, production readiness, and engineering standards across code quality, security and operations

Strategic Initiative 1: Real-Time Event Streaming Platform (Greenfield)

March 2025 - Present

- **Architecture Ownership:** Designed and built a Turborepo/pnpm monorepo on Node 22 — 3 Next.js apps (attendee, organizer, design system), 11 shared packages, 9 Lambda services; Docker Dev Containers cut new-engineer onboarding from days to **10 minutes**
- **Distributed Real-Time Layer:** Combined AppSync GraphQL pub/sub with an API Gateway WebSocket tier — connect, heartbeat and live-viewer Lambdas backed by ElastiCache (Valkey), decoupling connection state from MongoDB
- **Auth & Media Pipeline:** Built passwordless OTP auth on Cognito custom-challenge Lambdas; IVS live streams auto-record to S3 and transcode through MediaConvert, with CloudFront signed URLs gating downloads
- **Performance Engineering:** Built a 15-scenario k6 + Playwright harness (spike, soak, breakpoint, WebSocket, AppSync fan-out) with self-cleaning seed/teardown. Certified **500 concurrent attendees** — 63,813

requests, **0 failed, p95 329 ms** — as the path to a 10,000-attendee target

- **Production Readiness:** Authored the pre-launch audit that scored the release **44/100** and blocked the merge on **5 blockers** — brute-forceable OTP, an unauthenticated WebSocket surface, secrets inlined into the client bundle; added automated bundle secret scanning
- **AI-Assisted Engineering:** Authored 5 custom agent skills — test planning, load/smoke/browser test generation, Playwright-to-k6 conversion — wired to a k6 MCP server, turning test authoring into a repeatable workflow the team can re-run
- **Resilience & Cost:** Wrote the DR runbook and RPO/RTO envelope (**RPO as low as 1 min**); priced the data tier from **\$171 to \$1,160/month** across managed and self-hosted options to settle the architecture decision

Strategic Initiative 2: Legacy Platform Modernization

March 2020 - February 2026

- **Node.js v6 to v14 Migration:** Led modernization of a 10+ year old streaming platform across 20,935 files, with **3,488,100 lines removed** (99.8% reduction) and zero downtime
- **Runtime & Containers:** Rebased Docker images from CentOS 7 to Debian Bullseye (resolving ffmpeg compatibility); ran clustered Node under PM2 with Logstash/ELK log shipping and Zabbix monitoring
- **Service Extraction:** Moved reporting workloads out of the monolith into a dedicated API service, reducing blast radius for the heaviest queries
- **Database Layer:** Replaced the native MongoDB driver with Mongoose across all models, adding schema validation and eliminating a class of runtime errors

Strategic Initiative 3: Enterprise Data Visualization & Mobile

August 2021 - September 2022

- **Performance:** Cut file sizes by roughly **66%** through gzip compression on S3 and route-level code splitting
- **Full Stack Ownership:** React + Highcharts dashboard for global energy data, Python ingestion pipeline on AWS Lambda, Terraform-provisioned infrastructure, and an S3 deploy pipeline triggered through Azure DevOps
- **Mobile:** Shipped a React Native companion app with Firebase Cloud Messaging push notifications and offline-capable storage

Strategic Initiative 4: GDPR Compliance Suite

August 2019 - February 2021

- **Reusable Library:** Built a dependency-free cookie consent plugin with per-category consent, WCAG accessibility and multi-language support; later migrated its build from Gulp to TypeScript + Vite
- **Hardened Serverless API:** Consent-recording API on Lambda with domain whitelisting, NoSQL-injection and XSS sanitization, and security headers, serving 20+ enterprise domains

Strategic Initiative 5: Platform Security & API Modernization

July 2020 - March 2025

- **Enterprise SSO:** Implemented SAML 2.0 and Azure AD single sign-on for enterprise identity providers, with Redis-backed session storage
- **Abuse Prevention:** Added rate limiting, CAPTCHA and content filtering; remediated penetration test findings including parameter tampering
- **Security & Performance:** Introduced CSP headers, upgraded AWS SDK v2 to v3, integrated React Query and converted class components to hooks

IDX (formerly Investis Digital)

Frontend Developer (Services)

July 2015 - March 2020

- Delivered Sitecore MVC corporate and investor websites for **9 Fortune 500 enterprise clients**, with responsive design and ADA/WCAG compliance

Notable Enterprise Clients

- Snapchat, HP, WWE, Tupperware, Estée Lauder, Disney, Rolls-Royce, Kellogg's, United Airlines

Education

B.Tech in Information Technology, School of Engineering, RK University, Rajkot, India

2015