

Rajat Kumar

Senior Software Engineer

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SUMMARY

Six years building and operating production web systems in financial services and e-commerce, now owning 15+ Spring Boot microservices, two Angular applications, and the full observability, security, and release stack behind a top-10 US bank's collections platform. Works across the API, data, and interface layers of the same problem, and serves as the escalation point and architectural voice for business-critical systems in a regulated environment.

TECHNICAL SKILLS

Languages: Java, TypeScript, JavaScript, Python, Go, SQL

Backend & APIs: Spring Boot, Node.js, GraphQL, REST, gRPC, Microservices, Kafka, Event-Driven Architecture, High-Availability Architecture

Frontend: Angular, React, Next.js, RxJS, Redux, Webpack, Module Federation, Micro Frontends, Core Web Vitals

Cloud, Infra & Observability: AWS (Lambda, S3, EC2, CloudWatch, API Gateway), Kubernetes (OpenShift), Docker, CI/CD, GitHub Actions, Datadog (RUM, APM, Logs, SLOs)

Security & Compliance: CWE/CVE Remediation, SAST Triage & Disposition, SBOM/VEX (CycloneDX, OpenVEX), OAuth 2.0, Okta SSO/MFA, CAB Change Management, Regulated-Environment Engineering

Databases: PostgreSQL, MongoDB, Redis, Elasticsearch

AI & LLM Engineering: LLM Integration, RAG, MCP, Anthropic Claude API, Context Engineering, Agentic Coding (Claude Code, Codex)

Foundations: System Design, Distributed Systems, Concurrency, TDD, Observability, Code Review, Technical Mentoring, Agile/Scrum

PROFESSIONAL EXPERIENCE

Senior Software Engineer (Senior Associate, Application Engineering)

Jul 2023 – Present

Capital One (formerly Discover Financial Services)

Riverwoods, IL

- Own two Angular applications used daily by collection agents, including the business-critical operations console, plus the 15+ Spring Boot microservices, gateway router, and Kafka pipelines behind them.
- Core engineer on the Discover to Capital One merger integration, a 50M+ account migration with roughly 10M live to date and no service interruption on any owned system.
- Stood up the team's Datadog observability across the service mesh (RUM, APM, logs, custom SLOs) and tune Kubernetes resources against live traffic, holding production incidents near zero.
- Ran CWE analysis across every owned application on findings from an LLM-driven vulnerability scanner, dispositioning each result through formal review and shipping the valid fixes alongside BAU and merger delivery.
- Run a 30-day CVE remediation SLA and a rolling Angular major-version upgrade across every service, validated through formal change review before release.
- Designed a Module Federation Micro Frontend architecture for the collection-agent UI so separate teams could deploy on their own cadence, approved as the platform's forward direction.
- Led the frontend test migration from Karma and Jasmine to Vitest with Playwright coverage, cutting CI time and moving the codebase onto a modern TypeScript and ESM toolchain.
- Built the Okta MFA integration for the agent-facing application and own it as the subject-matter expert and L2 escalation point.

- Set technical direction and review code for a cross-seniority team, including engineers senior in title, through structured demos on JavaScript semantics, async patterns, and RxJS.

Software Engineer Intern

Airblox, AC Carrier Technologies Inc

May 2022 – Aug 2022

Rosemont, IL

- Built a full-stack task-management application (React, TypeScript, Node.js, PostgreSQL) at an early-stage startup and shipped internationalization across 5 languages, widening the addressable market by roughly 40%.

Senior Associate, Experience Technology (promoted from Associate)

Publicis Sapient

Dec 2017 – Jul 2021

Gurugram, India

- Co-designed a shared multi-brand frontend architecture on SFCC and SFRA for Kate Spade, Stuart Weitzman, and Coach: one codebase, per-brand theming, pluggable JS modules, and no more platform forks.
- Wrote a custom Service Worker caching layer from scratch, segmenting HTML, CSS, and JS by brand and content type to cut repeat-visit load times across all three storefronts.
- Cut page loads 30 to 50% with lazy loading and code-splitting across engagements serving 500K+ monthly users.
- Moved the data layer from REST to GraphQL, trimming over-fetching by roughly 60%.
- Earlier on the Marriott account, built hotel reservations, Homes & Villas, and a global search UI with autocomplete and a localStorage-backed listing cache that rendered progressively.
- Built NLP-powered search with Google Dialogflow and Elasticsearch, tuned AWS Lambda functions to lower execution cost by roughly 30%, and mentored junior engineers on frontend fundamentals.

SELECT PROJECTS

- **Reachble (open source)** / *TypeScript, Node.js, CycloneDX VEX* — CLI for function-level CVE reachability analysis on npm projects. Traces whether a vulnerable function is actually reachable, then emits VEX SBOM artifacts for US and EU compliance (EO 14028, EU CRA).
- **DevNexus** / *React, TypeScript, Webpack 5, Module Federation* — Reference architecture for production Micro Frontend systems: runtime composition, shared design tokens, typed shell-to-MFE contracts, and bundle-splitting for multi-team orgs. Distilled from real architecture work at Capital One.
- **gRPC Log Processing** / *Scala, Akka HTTP, AWS Lambda* — Distributed log pipeline with a gRPC client-server core, serverless processing on Lambda, EC2 and S3 storage, and a REST surface through API Gateway.
- **RL Financial Trading** / *Python, TensorFlow* — Policy-gradient reinforcement learning agent for equities trading, trained and back-tested on real historical market data. Beat the baseline strategy by roughly 30% on returns.
- **Dev-Session** / *TypeScript* — Context engine for AI coding sessions. Loader, Session State, and Eviction primitives treat the model's context window as a managed workspace rather than an accumulating buffer, so long sessions finish without drift.

EDUCATION

Master of Science in Computer Science · GPA: 4.0

May 2023

University of Illinois at Chicago (UIC) — Chicago, IL · Coursework: Reinforcement Learning, Artificial Intelligence, Cloud Computing, Object-Oriented Languages & Environments

Bachelor of Technology, Electronics & Communication Engineering · GPA: 3.65

May 2017

National Institute of Technology (NIT) — Hamirpur, India