Karthik Iyer Software Architect

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PROFILE SUMMARY

- **Software Architect** with **6 years** in back-end engineering, the last 2 as an architect on **connected vehicle and fleet services**, focused on **domain design, API standards and event-driven integration**.
- Hands-on with **Java**, **Spring Boot**, C#, **Google Cloud** (GKE, Pub/Sub), **PostgreSQL**, **Apache Kafka**, **OpenAPI** and **C4 model** diagrams.
- Strong in **event storming**, **ADR writing**, **load testing against NFR targets** and **contract testing**, working under a principal architect on **Ford Pro telematics**.
- Works with **product owners, SRE and cybersecurity** in design reviews, threat modeling sessions and sprint planning.
- Runs a monthly **architecture reading group** for 12 engineers and wrote the team's **API versioning guide**.

TECHNICAL SKILLS

Architecture Styles & Patterns:	Domain-driven design, event-driven architecture, microservices, modular monolith, CQRS
Languages & Frameworks:	Java, Spring Boot, C#, .NET, Python, SQL
Cloud & Infrastructure:	Google Cloud (GKE, Pub/Sub, Cloud Run), AWS, Docker, Terraform
Data & Messaging:	PostgreSQL, Apache Kafka, Google Pub/Sub, Redis, BigQuery
APIs & Integration:	REST, OpenAPI, gRPC, Pact contract tests, Kong
Security & Identity:	Threat modeling (STRIDE), OAuth 2.0, OpenID Connect, Cloud KMS
Documentation & Modeling:	C4 model, ADRs, Structurizr, Mermaid, RFCs

EDUCATION

Carnegie Mellon University — **B.S. in Computer Science** — Pittsburgh, PA · Aug 2016 to May 2020

WORK EXPERIENCE

Ford Motor Company — **Software Architect, Ford Pro** — Dearborn, MI · Mar 2025 to Present

- Split the fleet vehicle data service into 3 bounded contexts (telemetry, charging sessions, billing) after event storming with 2 product teams, cutting cross-team pull requests per sprint from 30 to **8**.
- Wrote **16 ADRs** for Ford Pro telematics services under a principal architect, including the move from nightly batch files to Pub/Sub events for charging data.
- Set p95 latency and throughput targets for the charging session API, then ran **k6** load tests at **4x** peak that found a connection pool limit before launch.
- Defined OpenAPI standards and a versioning rule for 22 internal APIs used by 5 teams, adding **Pact** contract tests that caught **11 breaking changes** before release.
- Joined the threat modeling session for every new fleet service, adding OAuth 2.0 scopes and Cloud KMS encryption for driver data, which closed **9 findings** before the security review.

Rocket Mortgage — **Software Engineer to Senior Software Engineer** — Detroit, MI · Jul 2020 to Feb 2025

- Moved the document upload flow out of the loan origination monolith into a **C#** service on **AWS**, cutting upload failures from 3.1% to **0.4%**.
- Drew the first **C4** diagrams for the servicing platform in Structurizr and used them in onboarding, cutting new engineer ramp-up from 10 weeks to **6**.
- Represented my team at the weekly architecture review and wrote **4 RFCs**, 3 of which became shared standards for the servicing engineering group.