

UDHAYA KUMAR

Staff Backend Engineer | Debezium · ClickHouse · Pub/Sub · Real-time CDC

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PROFESSIONAL SUMMARY

Architect and operate high-scale data systems where every layer (ingestion, modeling, serving, operations) matters. Rearchitected the data platform from batch-sync (days-late latency) to real-time CDC (sub-minute latency) serving 200+ e-commerce merchants. Designed segmentation engine (1,000+ active segments, 80% merchant adoption) and built recommendation system from zero-to-one. Grew backend platform team from 4 to 7 engineers. 13 years across PHP, Node.js, TypeScript, MySQL, ClickHouse, BigQuery, GCP, GKE. Seeking: Staff Engineer, Principal Engineer, or Founding Engineer roles in data infrastructure or platform systems. Remote-first.

PROFESSIONAL EXPERIENCE

Senior Product Development Lead (Backend / Data Platform)

Aug 2021 - May 2026

ConvertCart AI System Pvt Ltd | Bengaluru (Remote)

- Owned architecture, migration, monitoring, and production operation for customer and order data across 200+ merchants on five commerce platforms.
- Rearchitected data ingestion from cron-based batch sync to real-time CDC pipelines (Debezium + Google Pub/Sub). Raw MySQL landing → fan-out to MongoDB (serving), ClickHouse (analytics), BigQuery (historical). Reduced data freshness from days-late to sub-minute across all sources. Maintained 98%+ uptime. Directly unblocked real-time segmentation, recommendations, and personalization features.
- Designed multi-source data model and BigQuery customer schema consolidating four e-commerce platforms (Shopify, BigCommerce, WooCommerce, Magento) plus click-tracking data. Implemented identity resolution across anonymous sessions and known customers. Built SQL query builder and materialization pipeline enabling non-technical CSMs to create segments.
- Built segmentation engine serving 1,000+ active segments within 6 months. 80% merchant adoption of advanced features. Business impact: reduced engineering backlog from 40 pending requests to self-serve (CSMs unblocked from engineering dependency).
- Built recommendation engine (Manual → Automated → Smart trust ladder) from zero-to-one. 80%+ of merchants trialling Smart tier adopted it. Multi-region serving with 200ms p99 latency target.
- Architected 50+ microservice platform while leading platform team growth from 4 to 7 engineers. Owned architecture reviews, code reviews, technical alignment, mentoring, and delivery decisions.

Senior Software Developer - Team Lead (Backend)

Aug 2020 - Aug 2021

ConvertCart AI System Pvt Ltd | Bengaluru

- Diagnosed root cause of fragile cron-based sync system with days-late latency: normalize-on-ingest made retroactive logic changes impossible without full resyncs. Redesigned to raw-source storage pattern, eliminating expensive full-data resync friction.
- Replaced cron sync with real-time pipelines: webhook integrations for Shopify and BigCommerce (native support), custom implementations for WooCommerce and Magento 2 (no native webhooks). Handled platform-specific constraints without merchant-side changes.
- Stopped production crisis: 50M-row CDC snapshot consumed 60% CPU and blocked production writes. Diagnosed root cause (table-level snapshots at scale). Used Datastream for safe recovery. Changed rollout strategy to incremental table-level migration with production-scale testing. Prevented recurrence.
- Initiated recommendation engine with Manual → Automated → Smart trust ladder progression. Validated that 80%+ of merchants trialling Smart tier adopted it for production personalization.

Independent Backend Consultant

Feb 2019 - Aug 2020

Freelance

- Backend development and delivery work for freelance clients during a transition between full-time roles.

Software Development Lead

Aug 2018 - Feb 2019

Friday Media Group | Bengaluru

- Managed 3–6 engineers across marketplace API development, content ingestion, and data pipeline systems. Coached team on technical depth and ownership.

Senior Software Engineer - I / Software Analyst

Feb 2014 - Jul 2018

Scientific Games | Bengaluru

- Diagnosed and fixed pagination + join cardinality inversion problem in recurring MySQL reporting workload. Query improved: 3+ minutes → <500ms (360x improvement). Built reporting integrations and web services for high-volume gaming platforms.

Web Developer / Junior Software Engineer

Apr 2010 - Jan 2014

Tenlegs and ISPG Technologies | India

- Built web applications, email infrastructure, and MySQL-backed operational tools across multiple web projects.

TECHNICAL DEPTH

Real-Time Data Architecture: CDC (Debezium, Datastream), Google Pub/Sub, event sourcing, webhook integrations, idempotency patterns, fan-out design

Databases & Query Optimization: MySQL (index design, query execution plans, schema design, partitioning), ClickHouse, BigQuery, MongoDB, Redis

Data Modeling & Analytics: fact/dimension tables, slowly-changing dimensions, identity resolution, multi-source data consolidation

Backend Systems: Node.js, TypeScript, PHP; microservices architecture; REST APIs; async patterns

Infrastructure & Operations: GCP, GKE, Docker, Kubernetes, Google Cloud Monitoring; incident response, post-mortems

Team Leadership: hiring, mentorship, async-first remote management, code review culture

PRODUCTION PROOF

- Data Platform: Rearchitected from batch-sync (days-late) to real-time CDC (sub-minute) across 200+ merchants on 5 commerce platforms. Unblocked real-time segmentation and personalization.
- Segmentation Engine: 1,000+ active segments, 80% merchant adoption. Reduced engineering backlog from 40 pending requests to self-serve.
- Production Crisis: 50M-row CDC snapshot consumed 60% CPU and blocked writes. Diagnosed root cause (table-level snapshots at scale). Recovered safely via Datastream. Prevented recurrence via incremental rollout strategy.
- Performance Diagnosis: Pagination + join cardinality inversion problem. Reversed operation order (filter before join). 3+ minutes → <500ms (360x improvement).

ALSO BUILT (TECHNICAL BREADTH)

- **enbus:** Geographic transit query system (Tamil Nadu, 93K routes, 2,234 stops). PostgreSQL, GTFS ingestion, geographic indexing. Demonstrates: complex data structures, indexing, public APIs, geographic queries.
- **BriefMyDoctor:** Full-stack healthcare product. Product design, backend, UX, Claude API integration. Demonstrates: LLM integration, end-to-end ownership, domain research, user-centric design.
- **HitReplAI:** Chrome extension with browser automation, backend persistence, AI integration, Playwright/Puppeteer testing. Demonstrates: browser APIs, async patterns, test infrastructure, shipping speed.

EDUCATION

B.E. Computer Science and Engineering · Adhiyamaan College of Engineering

LOOKING FOR

- Staff Engineer or Principal Engineer roles: owning data systems or platforms end-to-end, working with teams of 3–8 engineers, making tradeoff decisions under constraints.
- Founding Engineer roles: zero-to-one shipping in data infrastructure or backend systems, comfortable with ambiguity and shipping fast.
- Also open to: Engineering Manager roles focused on platform/infrastructure teams, with strong IC credibility as foundation.
- Preferences: remote-first, India-based or worldwide roles, async-friendly engineering cultures where engineers own outcomes.