

Amit Das

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SUMMARY

High-impact Product Engineer with 4+ years of experience specializing in end-to-end product development, Gen AI solutions, and rapid prototyping. Proven track record of scaling distributed platforms to **1.5M messages/min** peak throughput, delivering strategic cost reductions of **\$93K+** annually, and consistently compressing concept-to-production cycles. Expert in building high-velocity systems using ElasticSearch, LangChain, and Gen AI alongside Node.js, Kafka, and Kubernetes within fast-paced, high-growth environments.

EDUCATION

National Institute of Technology Tiruchirappalli

Bachelor of Technology (B.Tech) in Computer Science and Engineering

Tiruchirappalli, India

Aug. 2018 – Aug. 2022

EXPERIENCE

Yellow.ai

Software Development Engineer II

April 2025 – Present

- Spearheaded **Nexus**, a Gen AI-powered agentic interface enabling enterprises to build and manage AI agents via natural language; eliminating manual onboarding friction and driving a **40%+ increase in platform adoption** across **750+ enterprise AI agents**.
- Architected the 'Engage' notification engine to handle peak loads of **1.5M messages/min**, redesigning plain BullMQ queues into a per-channel throttling layer with idempotency and rate-limiting; shaping burst traffic into controlled, fixed-rate downstream delivery to ensure zero message loss at scale.
- Replaced a legacy cron-based archival pipeline (single-day JSON dumps to Minio) with a structured cold storage layer using **S3 Tables in Parquet format** and **AWS Athena** for on-demand querying; enabling granular data access, eliminating hot database bloat, and reducing annual infrastructure costs by **\$93,000**.
- Designed real-time analytics pipelines on **PostgreSQL** with time-based partitioning via **pg_partman**, selected after benchmarking partitioned vs non-partitioned schemas at production scale; enabling efficient bucketing and pruning across **18B+ conversations per quarter**.
- Overhauled system observability and monitoring across all modules using **Grafana, Prometheus, and New Relic**; cutting MTTD and MTTR by **90%**, and improving platform SLA from **98.1% to 99.5%**.
- Shipped a high-precision metering and rate-limiting system using Openmeter, eliminating **\$50k+** in annual revenue leakage by resolving billing discrepancies for 900+ enterprise accounts.
- Mentored **junior engineers** through code reviews and architecture doc reviews, and led technical design reviews for cross-module features to align implementation with platform-wide standards.

Software Development Engineer I

Sep. 2022 – April 2025

- Owned the 'Analyze' module end-to-end — building an **LLM-powered** conversation analysis pipeline that indexed insights into **ElasticSearch**, and automatically derived knowledge bases from analyzed data to feed and improve downstream **AI agent** performance.
- Built core 'Engage' platform features including an omni-channel marketing workflow builder, a CDP with user segmentation, and an event-driven campaign builder — enabling personalized, large-scale outreach across **10+ communication channels**.
- Optimized query performance on **ElasticSearch and MongoDB** through index planning, query plan analysis, and schema restructuring — reducing p95 latency and ensuring **99.9% uptime** for high-traffic integrations.
- Led rapid prototyping and end-to-end delivery of **Meta platform integrations (WhatsApp, Facebook)**, taking beta features like WhatsApp Calling and MMLite from concept to production in **under 1 week** — accelerating vendor adoption cycles and directly enabling new enterprise client acquisition.

Software Engineering Intern

June 2021 – August 2021

- Took ownership of building a cross-platform SDK using Xamarin, streamlining the client integration process and accelerating platform adoption.

TECHNICAL SKILLS

Languages: JavaScript (ES6+), TypeScript, Python

Frameworks: Node.js, React.js, Express.js, OpenAI/LangChain

Infrastructure & DevOps: AWS, S3, Athena, Kubernetes, Kafka, Redis, Docker, MongoDB, PostgreSQL, ElasticSearch, Helm, Jenkins, Nginx, Airflow

Observability & Tools: Grafana, New Relic, OpenSearch, Openmeter, Git, Prometheus