Abhra Ghosh

Bangalore | abhraghosh9@gmail.com | +918618165382 | LinkedIn | Github

Experience

Paytm (Agentic AI Platform) — *Bangalore, India*
Technical Lead — *Sept. 2025 – Present*

- **Lead Agentic AI Platform:** Own architecture and delivery across **11 services**, leading **5 engineers** to serve ∼**2M AI-led support conversations** and **6M+ agentic operations daily** in production (decisions, tool calls, LLM inferences), with the **multi-tenant** re-architecture alone driving **$2M+ infra savings**.
- **Bot Engine:** Built the LLM orchestration core on **LangGraph** with bounded agent loops, **streaming PII redaction/restoration**, and **OpenAI-compatible** chat APIs, serving **1M+ LLM inferences daily**.
- **Decision Engine:** Designed a **DAG-based orchestration engine**, a **BFS traversal** over versioned decision graphs with **pause/resume execution state**, unifying **deterministic** and **agentic** execution across **100+ workflows** and **80M+ decisions monthly**.
- **Action Executor Service:** Developed the tool execution layer on **Spring Boot** and **Apache Camel** with **bounded async thread pools**, integrating **20+ MCP, Kafka, and Camel connectors**, executing **2M+ tool calls daily**.
- **Journey Orchestration Engine:** Built a **Temporal**-backed **durable workflow engine** orchestrating **entity-centric journeys** across decision flows and AI agents, with **durable waits** and signal-based resume extending execution to **multi-day lifecycles**.
- **Tenant Isolation & Security:** Architected **3-tier DB isolation**, **AES-256-GCM** encryption with **per-tenant DEKs**, **PII redaction** (**30+ patterns**), and **Keycloak RBAC**, with **Temporal**-automated **one-click onboarding**.
- **Async & Concurrency Engineering:** Engineered a non-blocking **Kafka** audit pipeline with **Semaphore-bounded** S3/SQS fallback backpressure, **CompletableFuture** on dedicated thread pools, and **MDC/ThreadLocal** trace propagation across async boundaries.
- **AWS Infrastructure & CI/CD:** Architected and owned end-to-end CI/CD pipelines using **Bitbucket**, **AWS** (ECR, CodeArtifact, EKS, IAM), and **GitOps** via **ArgoCD**, enabling secure, fully automated production deployments at scale.

MPL Gaming (Central Data Platform) — *Bangalore, India*
Software Development Engineer 2 — *July 2025 – Sept. 2025*
(Transition due to government regulatory changes impacting business)

- **Flink Data Relay Service:** Developed a Flink-based Data Relay Service capable of handling **5M+ RPM** using async **gRPC calls**, ensuring **exactly-once** delivery semantics and high reliability in real-time event processing.
- **Real-time Segmentation & A/B Testing:** Built a **user profile segmentation** and **A/B Testing** system using **Spring Boot**, enabling user categorization and multi-variant experimentation with **sub-50ms** response times.

Gupshup (Bot Analytics) — *Bangalore, India*
Software Engineer 2 — *Aug. 2022 – July 2025*

- **Complete Architecture Overhaul:** Re-engineered the product architecture to **Kafka-Apache Pinot**, boosting peak TPS from **600** → **10**K, daily ingestion from **100K** → **30M** and reducing query latency to **20–200 ms.**
- **Scalable Microservices Platform:** Developed **10+** Spring Boot microservices with **Kafka**, **Redis**, cutting latency by **50%**. Built a goal-tracking engine for **5K+ brands** driving a major feature launch. Press Release
- **Real-Time Data Processing:** Engineered high-performance Apache Flink jobs for real-time data aggregation, aggregating thousands of records per second, achieving a **70% reduction** in data storage footprint.
- **Team Leadership & Feature Delivery:** Led the team through major feature releases, driving a **10x increase** in peak system capacity via rigorous load testing. Mentored juniors through daily code reviews.

Gupshup (Agent Assist) — *Bangalore, India*
Software Engineer Intern — *Jan. 2022 – Aug. 2022*

- **Exports Automation & Circuit Breaker System:** Automated exports and built a DB circuit breaker, reducing manual ops by 90% and DB downtime by 25%.

Education

Bangalore Institute of Technology — *Bangalore, India*
B.E. in Computer Science and Engineering **(CGPA: 9.25/10)** — *Aug. 2018 – May 2022*

Skills

Languages: Java, Python, C, JavaScript, SQL, NoSQL

Technologies: Spring Boot, Kafka, Redis, Flink, Camel, Pinot, MySQL, MongoDB, Cassandra, LangGraph, Temporal

DevOps & Tools: AWS, Kubernetes, Docker, Jenkins, Grafana, CI/CD, Git, ArgoCD

Awards & Achievements

- **Paytm Rising Star Award:** Received within **3 months** for outstanding contributions to the Agentic AI Platform.
- **DSA Proficiency: Top 3%** on LeetCode **(Knight rank)**, **500+** problems solved across LeetCode & GeeksforGeeks.
- **Institute Top Performer:** Ranked top **1%** of cohort consistently across all 8 semesters.