SUDIPTA BANIK

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PROFESSIONAL PROFILE

Seeking Senior Software Engineer (Backend) roles to build reliable platforms for millions of users globally. 6+ years experience with supply chain visibility at FourKites and fintech products at Grab (microservices, distributed systems, event-driven architecture in Go/Java), plus batch compute platform managing thousands of nodes and batch workloads on Apache stack at Uber.

PROFESSIONAL EXPERIENCE

UBER

Oct 2024 – Present
Software Engineer (L4) | Batch Compute Team
Bangalore, India

- **Automated cluster fault isolation:** Implemented a Resilience4j layer on the Apache YARN Router with per-cluster circuit breakers and retries, reducing manual incident MTTR from around 15 minutes to under 60 seconds.
- **Kubernetes admission controls:** Built a ConfigMap-driven admission policy to block low-tier apps during outages, protecting capacity for high-priority workloads (blocked around 7% of total concurrent volume).
- **Apache YARN scheduling improvements:** Moved application-id generation to the YARN Router and enforced submission time based ordering, reducing scheduling out-of-order delays by almost 20s in smaller clusters.
- **Cluster federation management CLI:** Built an Apache YARN router federation CLI command with Zookeeper-backed runtime state to instantly detach problematic sub-clusters, stop RPCs to unhealthy clusters, and contain incident blast radius.
- **Mitigated host instability:** Did analysis and re-configured memory reservations for critical host agents (e.g., ssh) to prevent OOM kills during heavy memory pressure while running Apache YARN workloads.
- **Improved K8s operational visibility:** Enhanced the internal application listing with job-id search and resource-usage shading, improving operational efficiency.

GRAB

Senior Software Engineer
Aug 2023 – Oct 2024
Lending Core Team
Bangalore, India

- Contributed to redesigning the loan eligibility processing engine from a bi-weekly batch process to an **event-driven system triggered by real-time driver activity**. This **eliminated data lag** and **redistributed the processing load for millions of drivers across five markets, reducing peak database demand by approximately 30% and increasing loan product adoption**.
- Optimized loan creation API performance by implementing **MySQL batch inserts** for instalment processing, **reducing p95 latency by almost 32%**. The reduction in network round-trips and lock acquisitions **improved throughput during high-concurrency database writes**.
- Developed a **scalable data aggregator** consuming 5+ internal APIs to facilitate banking partnerships; optimized for **sub-second latency** and implemented **partial response logic** to ensure **high system availability**.
- Enhanced an internal **retry framework** built on top of a Kafka connector, enabling **message re-queuing for reprocessing** during application shut-down to **prevent data loss**.
- Mentorship: Facilitated **codebase deep-dives and technical onboarding** for new hires to accelerate team integration.

Software Engineer
Oct 2021 – Aug 2023
PayLater Team
Bangalore, India

- Designed the **BNPL Refund API** to support Grab's expansion into Indonesia. Successfully **scaled the service to 10% of the country's user base** during the initial launch phase. Integrated **idempotent design and state machine logic to automate error recovery and complex refund flows**.
- Developed a **tiered service fee engine** for the Indonesia BNPL rollout. Orchestrated changes across **real-time Charge APIs and batch billing systems to calculate usage-based fees**. Integrated **slab-rate logic** and ensured fee charges during initial monthly transaction.

- Created **low-level design for a credit risk checker module**, featuring configurability, and developed an API client for **country specific credit bureau integration**, collaborating with product management and external credit bureau.
- Designed and implemented a **robust lending credit score API**, integrating data from multiple internal services. Drove discussions with internal data-science team and product teams, ensuring **adherence to API design and security best practices**.
- Collaborated in cross-service **technical debt reduction**, including a Go version migration and **full go mod adoption**. Improved **build pipeline speeds by 18%** and **reduced container image sizes**. Executed a comprehensive refactor that **increased unit test coverage by 20%** and ensured strict **clean-code adherence**.
- Awarded **"The Grab Way Award" in 2023** for engineering excellence in BNPL project.

FOURKITES INC.

Jun 2019 – Oct 2021

Software Engineer | Multimodal Supply Chain Visibility Team Chennai, India

- **Designed and implemented a scalable API response caching system** for generic tracking data, utilising **Redis to efficiently store and retrieve responses for 50,000+ ocean shipments** across 10+ ocean carriers. Successfully **containerized, deployed, and tested** the system. Later adopted by rail and air shipment teams, expanding its use.
- **Designed an asynchronous Kafka-based pipeline** to enrich maritime ETD events by **integrating distributed microservices into a unified callback payload**, decoupling ingestion from enrichment to ensure **high-throughput delivery of real-time shipment updates**.
- **Port Address Autocomplete API:** Developed global port autocomplete APIs using **composite indexing** on various granularity levels to achieve **sub-second search response times**.
- **Conceptualized and oversaw the development of an internal tool** for creating shipment tracking events, mentoring an intern, and **boosting QA productivity**. **Reducing tracking event testing time significantly**.
- **Integrated ocean-specific features into common shipment cloning module** to streamline new client demonstrations. This enhancement enabled tailored, **domain-specific data replication**, improving the **accuracy and impact of the sales engineering process**.

EDUCATION

Jadavpur University Aug 2015 – May 2019

Bachelor of Engineering in Electrical Engineering Kolkata, India

Relevant Coursework: C++, Data Structures & Algorithms, Computer Networks, Signals & Systems, Engineering Mathematics

TECHNICAL SKILLS

- **Languages:** Go, Java, SQL, C++, Python
- **Infrastructure:** Kubernetes (K8s), Apache YARN, Docker, AWS, GCP
- **Backend & Messaging:** Kafka, Redis, PostgreSQL, MySQL, Aerospike, ElasticSearch
- **Tools/Frameworks:** Spring Boot, Datadog, Jenkins, Git

LANGUAGES

English: Full Professional Proficiency **Bengali:** Native