

SUDIPTA BANIK

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SUMMARY

Senior Software Engineer with 6+ years designing and operating high-scale distributed systems and event-driven backends at Uber, Grab, and FourKites. Specialized in Go and Java microservices across job execution systems, financial lending platforms, and real-time data pipelines. Proven track record of owning complex cross-team initiatives end to end, from system design to production, with consistent focus on reliability, latency, and measurable business impact.

WORK EXPERIENCE

UBER

Software Engineer II

Batch Compute Team

Oct 2024 – Present

Bangalore, India

- Designed and implemented **automated fault isolation** for Apache distributed job execution system using **circuit breakers and adaptive retries**, reducing incident Mean Time To Resolve (MTTR) to under 60 seconds and preventing cascading failures across downstream services.
- Built a dynamic workload admission control service to protect high-priority jobs during system stress, leveraging Kubernetes ConfigMaps for real-time policy propagation – blocking ~7% of total concurrent job volume.
- Improved job scheduling correctness in a distributed execution engine by centralizing ID generation and enforcing submission-time ordering, **eliminating allocation delays of up to 20 seconds** for ML and data workloads.
- Developed a ZooKeeper-backed federation controller for the Yet Another Resource Negotiator (YARN) Router, enabling quick cluster isolation and re-attachment to **maintain system Service Level Agreement (SLA)** during system outages.
- Enhanced Uber's internal Kubernetes batch job observability dashboard with workload-type and job-ID search, and a resource-usage heatmap - **Improving on-call debuggability** and reducing time-to-insight during incidents.

GRAB

Senior Software Engineer

Lending Core Team, Fintech

Aug 2023 – Oct 2024

Bangalore, India

- Contributed to re-designing the loan offer and credit limit generation from a **monthly batch to real-time event-driven processing**, reducing DB load by ~30% across **millions of drivers** and increasing loan product adoption.
- Reduced loan creation API p95 latency by almost 32% via **MySQL batch inserts** for instalment. The reduction in network round-trips and lock acquisitions **improved throughput during high-concurrency database writes**.
- Developed a **sub-second data aggregator API** integrating 5+ internal APIs for banking partners; with **partial response fallback for high availability**.
- **Improved the internal Kafka consumer framework reliability** via graceful shutdown re-queuing, reducing message loss to near zero across financial transaction pipelines.
- **Mentored 2 new engineers through onboarding**, maintaining team velocity during hiring season.

Software Engineer

PayLater Team, Fintech

Oct 2021 – Aug 2023

Bangalore, India

- For Grab's Indonesia PayLater launch, **designed and scaled the Refund API** to handle 10% of the country's user base. Used **idempotent and state machine design patterns**, automating retries, error recovery and complex refund flows, which handled 3M+ users gracefully.
- Built a **tiered service fee module for real-time charge APIs and batch billing systems**, implementing slab-rate logic per Indonesian regulatory requirements.
- Designed a configurable credit risk assessment module, **collaborating with product teams and external credit bureaus** to integrate country-specific requirements across **multiple Southeast Asian markets**.

- Designed and implemented a **robust lending credit score API**, integrating score from data-science team models and user metadata teams, ensuring **adherence to REST API design and security best practices**.
- Improved CI/CD build speeds by ~18% and increased unit test coverage by ~35% through Go version migration, go mod adoption, and systematic refactoring following **clean code adherence and dependency inversions**.

FOURKITES INC.

Software Engineer

Multimodal Supply Chain Visibility Team

Jun 2019 – Oct 2021

Chennai, India

- Architected a **Redis-backed caching layer** to enable direct integration with 10+ global maritime carriers, reducing reliance on costly third-party data providers. Designed carrier-specific configs to comply with **API rate limits and built end-to-end data parsers and update flows** — later adopted by rail and air teams. **Guided an intern through task delegation to fast-track delivery**.
- Resolved search disruptions by replacing a shared Elasticsearch dependency with a dedicated Port Auto-complete API; utilized **composite indexing and in-memory caching** for 80,000+ ports to achieve **sub-100ms latency and operational independence**.
- Designed an **async Kafka-based maritime event enrichment pipeline** for ETA/ETD updates by **integrating data from multiple internal microservices** into a unified callback payload — ensuring event persistence, configurability, and reliable real-time shipment update delivery to customers.
- Eliminated error-prone QA processes by replacing SSH-based Ruby script execution with an **internal shipment event simulation tool** — dropdown-driven UI, event-specific data fields, and background worker integration. Delegated frontend tasks to an intern to fast-track delivery.
- Added ocean-specific features to the shipment cloning module, enabling **domain-specific data replication that improved accuracy and impact** of new client sales demos.

EDUCATION

Jadavpur University

Bachelor of Engineering in Electrical Engineering

Aug 2015 – May 2019

Kolkata, India

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

TECHNICAL SKILLS

- **Languages:** Go (Golang), Java, SQL, Python, C++
- **Distributed Systems & Infrastructure:** Kubernetes (K8s), Apache YARN, Docker, AWS, GCP, Linux
- **Data Management & Streaming:** Kafka, Redis, Aerospike, PostgreSQL, MySQL
- **Frameworks & Tools:** Spring Boot, Datadog, Jenkins, Git, CI/CD

ACHIEVEMENTS

- **The Grab Way Award (Q1 2023)** — Recognized for leading engineering improvements in the Buy Now Pay Later (BNPL) project, enhancing system reliability and supporting business growth.

PROJECTS

Travelling Thief Problem

2018

Explored metaheuristic approaches to approximate solutions for the Travelling Thief Problem, a composite NP-hard problem coupling TSP and 0/1 knapsack selection implemented in MATLAB, under the guidance of professor at Indian Statistical Institute, Kolkata.

Source: github.com/baniksudipta/tpp_project

LANGUAGES

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