SUDIPTA BANIK

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SUMMARY

Software Engineer with 6.5 years of experience at Uber, Grab, and FourKites specializing in high-scale distributed systems and event-driven backends. Expert in Go, Java, and Kafka across job execution, fintech, and logistics domains. Holder of a Bachelor of Engineering in Electrical Engineering from Jadavpur University. Open to relocation.

WORK EXPERIENCE

UBER

Software Engineer II Oct 2024 – Present
Batch Compute Team 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 outages, leveraging Kubernetes ConfigMaps for real-time policy propagation and blocking ~7% of total ~400K+ 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 Apache 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 Aug 2023 – Oct 2024
Lending Core Team, Fintech Bangalore, India

- Redesigned the loan offer and credit limit generation from a monthly batch job to **real-time event-driven processing using Kafka**, reducing peak DB load by ~30% and reducing loan offer waiting time for **millions of drivers**.
- 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.

Software Engineer Oct 2021 – Aug 2023
PayLater Team, Fintech 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**.
- Developed a **robust lending credit score API**, integrating credit score from data-science team models and user metadata services, 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 upgrade, glide to go mod adoption, and systematic refactoring following **clean code adherence and dependency inversions**.

FOURKITES INC.

Software Engineer Jun 2019 – Oct 2021
Multimodal Supply Chain Visibility Team 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**, which was later adopted by rail and air teams.
- **Mentored an intern** on feature implementation and code review process for maritime integration module, accelerating knowledge transfer and team productivity.
- Improved **global address search API availability** by replacing a shared Elasticsearch dependency with a dedicated Port Autocomplete API utilising **composite SQL indexing and in-memory cache** for 80,000+ ports and achieved **sub-100ms latency**.
- **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** with dropdown-driven UI, event-specific data fields, and background worker integration. Delegated some tasks to an intern for their learning.
- 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 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 (Golang), Java, Python, SQL, C++
- **Backend & API:** REST, gRPC, Microservices, Event-Driven Architecture, Spring Boot
- **Messaging & Infrastructure:** Apache Kafka, Kubernetes, Docker, Apache YARN, Linux
- **Databases & Caching:** MySQL, PostgreSQL, Redis, Aerospike
- **Cloud & Observability:** AWS, GCP, Datadog, 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/ttp_project*

LANGUAGES

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