

HIRAK MONDAL

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Professional Summary

Backend Software Engineer with 2+ years of experience designing, building, and owning **secure, scalable payment systems in microservices-based architectures**. Hands-on experience with **OLW/CLW wallet flows, encryption, distributed systems, and observability**. Proficient in **Java, Python, Kafka, AWS, OpenSearch, and PHP**.

Experience

PayU Payments Private Limited

Software Engineer

Bengaluru, India

Apr 2025 – Present

- Build and own end-to-end **Open Loop Wallet (OLW)** and **Closed Loop Wallet (CLW)** payment flows from the ground up in a **microservices-based architecture**, enabling **INR 8Cr+ transaction volume in the last 3 months** with a **99.3% success rate**.
- Collaborate cross-functionally with **iOS, Android, and Web teams** and coordinate with **multiple banking partners** to deliver secure, high-volume payment systems using **Java and PHP**.
- Engineer a reusable **AES–RSA hybrid encryption framework** with **Base64 encoding**, securing sensitive payloads **in transit and at rest** across **10+ internal services**, reducing data exposure risks across **inter-service communication**.
- Automate secure bank data ingestion pipelines using **Python**, processing **password-protected ZIP files** and **cell-level encrypted Excel/CSV data**, improving data processing efficiency by **60%** and eliminating manual intervention.
- Develop **Grafana-based observability dashboards** across **10+ microservices**, monitoring **API throughput, CPU, and memory utilization**, and enabling proactive alerts that reduce incident detection and response time by **40%**.

Associate Software Engineer

Jul 2023 – Apr 2025

- Enhanced **company-wide distributed logging pipeline** using **Fluent Bit, Kafka, FluentD, S3, and OpenSearch**, reducing infrastructure and operational costs by **80–90%** while significantly improving production troubleshooting efficiency.
- Built a unified log retrieval system integrating **current logs with historical archives** by restoring data from **Amazon S3 Glacier** and indexing it into **OpenSearch**, enabling seamless access and analysis while improving search efficiency by **60–70%**.
- Migrated legacy **cron-based workflows** to **Dolphin Scheduler**, extending **RBAC** with a custom “**Maintainer**” role to enable delegated project permissions.
- Customized **Dolphin Scheduler UI** and integrated **Hub-based authentication**, improving platform security and user experience.
- Improved code quality and security posture by increasing **SonarQube coverage to 90%+**, achieving an **A+ security rating** and ensuring long-term maintainability across services.

Software Engineer Intern

Jan 2023 – Jun 2023

- Modernized the company-wide logging pipeline by migrating from **Logstash** to a **Fluent Bit / FluentD + Kafka-based architecture**, significantly reducing resource usage and improving log ingestion performance.

Technical Skills

Languages: Java, Python, PHP, C++, SQL

Backend & Messaging: Kafka, Redis

Cloud & Infra: AWS (S3, EC2, EventBridge), Localstack

Observability: Fluent Bit, FluentD, Logstash, OpenSearch, Grafana

Testing & Quality: JUnit, Mockito, SonarQube

Tools: Git, Postman, IntelliJ IDEA, VS Code

Education

Jadavpur University

B.E. in Electronics and Instrumentation Engineering (CGPA of 8+)

2019 - 2023

Kolkata, India

Barasat Mahatma Gandhi Memorial High School

(Class X: 87.4% — Class XII: 80%)

2011 - 2019

Kolkata, India

Academic Projects

- **Image Processing WebApp** – Image editing and analysis using **Python, OpenCV, Streamlit**.
- **Metal Corrosion Detection** – CNN-based image classification using **Python, TensorFlow**.

Achievements

ThankU Award (CEO) — Optimized critical logging pipelines, delivering **80–90%** cost reduction.