

Satya Raj Awasthi

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Research Interests

Software Engineering, Programming Systems, Distributed and Scalable Systems, AI/ML Applications in Software Engineering

Education

Pokhara University (NCIT, Lalitpur)

May 2021 – Dec 2025

Bachelor of Engineering in Software Engineering

Relevant Coursework: Principles of Programming Languages, Data Structures and Algorithms, Analysis and Design of Algorithms, Mathematical Foundations of Computer Science, Software Testing, Validation, Verification and Quality, Applied Operating Systems, Database Management Systems, Web Technology, Artificial Intelligence and Neural Networks, Probability and Queuing Theory, Numerical Methods, Distributed Systems, Real-Time Systems, Engineering Economics.

Shikshodaya Technical Secondary School

2017 – 2020

Computer Engineering (Class 9–12, Diploma Level)

Relevant Coursework: C Programming, OOP with C++, Web Development (HTML, CSS, PHP, MySQL), Programming Technology (Java and VB.Net), Database Management Systems.

Research and Academic Projects

Log-based Fault Localization and Anomaly Detection System *Python, Pandas, LSTM, Unsupervised Log Segmentation*

Developed an autonomous fault localization system inspired by research papers like *DeepLog* and *Log-Based Fault Localization with Unsupervised Log Segmentation*. The system performs log parsing, anomaly detection, and root cause localization through deep learning and sequence modeling.

Caching and Load Balancing System *Go, Redis-like Architecture*

Designed a distributed caching system with LRU eviction, append-only persistence, and a custom load balancing algorithm to case study how caching systems work and are implemented.

Centralized Logging System using Kafka and ELK Stack *Java, ELK Stack, Kafka*

Created a system that shows how trace Id per request can be generated and used across all microservices and used in ELK pipeline along with Kafka for distributed tracing and visualization of logs per request.

NCIT Events Management Platform *FastAPI, MySQL, React, Tailwind, Docker*

Built a full-stack web application for managing institutional events, registrations, and competitions; currently adopted by NCIT students and faculty.

Industry Experience

eSewa Ltd., Lalitpur — Software Engineer

Mar 2023 – Present

Contributing to large-scale backend systems for Nepal's leading digital payment platform (serving 11M+ users). Work involves designing scalable APIs, improving transactional reliability, and implementing secure communication workflows using Java, Spring Boot, Kafka, and related distributed technologies. Applied Test-Driven Development (TDD), Functional, and Reactive Programming practices across hybrid on-prem and cloud-based services, with experience in developing multi-tenant service architectures.

Honors and Awards

- **Undergraduate Full Scholarship** — Awarded by Pokhara University through national-level competitive examination for pursuing B.E. in Software Engineering (2021–Present).
- **GitHub Campus Expert** — Selected among 70 out of tens of thousands of global applicants shortlisted by GitHub Education for community leadership and technical excellence.

Mentorship and Leadership

GitHub Campus Expert — Mentored and supported by GitHub Education to lead and mentor the technical community of students on my campus and throughout Nepal. Mentored at 8+ hackathons and delivered 10+ talks/workshops on programming, open source, and career development.

Nepal Open Source Klub (NOSK) — Active Working Committee Member; organized 20+ FOSS events including *Software Freedom Day 2022–2025*, engaging 1000+ participants collectively.

Nepal Tek Community — Founding Member; built and led a 10+ member core team, coordinating 10+ community events and 6 sub-communities focused on technology and innovation.

Selected Talks and Mentorships: Speaker at Hack36 8.0 (MNNIT India), GNOME Asia Summit 2023, and GitHub Field Day 2023–2024; mentored participants at NOSK Hackfest, MBM Ideafest, and other student hackathons.

Technical Skills

Languages and Frameworks: Java, Spring, Python, FastAPI, Go, Javascript, React

Data and Pipelines: MySQL, PostgreSQL, MongoDB, Neo4j, Kafka, Redis, ELK, Minio

DevOps: Git, Linux, Docker, AWS, Jenkins, Maven, Gradle

Practices: Microservices, TDD, Reactive Programming, Functional Programming

Soft Skills

Leadership and Collaboration, Communication, Learning and adaptable, Problem Solving

More projects and details available at github.com/SatyaRajAwasthi1