Shaswat Tiwari

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Portfolio: https://tiwarishaswat.com.np

TECHNICAL SKILLS

Languages: Go, Python, JavaScript, TypeScript, C/C++, Matlab, SQL
Web Dev: REST, gRPC, GraphQL, OpenAPI, Echo, React, Django, Flask, HTML, Tailwind CSS
Others: GCP, AWS, Docker, MongoDB, Postgresql, Drone CI, Git, Github, Linux

PROFESSIONAL EXPERIENCE

Software Engineer / Tech Lead — May 2022 – Present
Rara Digital Lab Pvt. Ltd. — *Lalitpur, Nepal*

ERP Solution for Retail Stores in the US (Go, gRPC, REST, Postgres, React, TypeScript, Docker, Drone CI, Swagger)
- Led the design, architecture and development of a multi-server backend system in Go handling large-scale sales, purchase, and transactional data ingestion across 3 mobile apps and 3 web apps with proper swagger docs.
- Containerized the FE and BE using Docker, implemented the CI/CD pipeline in DroneCI, and setup dev, uat and production servers with appropriate public domains
- Crafted frontend modules in ReactJS with api integration using openapi-codegen
- Managed a team of developers, ensuring code quality through reviews and adherence to clean architecture principles.

Hospital Warehouse Management System for a German Company   *(Go, GraphQL, Postgres)*
- Implemented multi-tenancy, advanced filtering, sorting, pagination, and search functionalities for streamlined warehouse management.
- Scaled the system to support multitenency.
- Later promoted to Backend Lead, taking part in client meetings, planning sprints and guiding junior developers.

Distributed Cloud Computing Platform   *(GCP, Python, Docker, Flask)*
- Architected a scalable, distributed cloud system using Google Cloud Platform services (BigQuery, Cloud Functions, Compute Engine, Pub/Sub, etc.) to enable parallel processing of large datasets (1GB - 100GB json files).
- Iteratively designed and implemented multiprocessing pipelines for efficient data streaming and processing which reduced the 11 days runtime for the entire pipeline to 5 hrs.

Space - HR Management App   *(Go, GraphQL, Postgres)*
- Refactored and optimized the backend system to enhance performance, scalability, and maintainability.
- Implemented Role-Based Authentication (RBAC) using roles, resources, and permissions.
- Led a team of 2 backend developers and ensured smooth project delivery.

Comply - No-Code Audit Platform   *(Go, GraphQL, Postgres)*
- Developed complex branching logic to enable user-driven audit routines.
- Created a scalable backend system using Go, GraphQL, and Postgres to handle various user configurations for routine control checks.

Inventory Management System   *(Go, GraphQL, Postgres)*
- Solely completed the backend development of the inventory management system for the Government of Nepal using Go, Postgres, and GraphQL.

Sumo Ledger - An Api first accounting system   *(gRPC, Go, REST, Swagger, Postgres)*
- Developed middleware and hooks for access and audit logging, enhancing data security and traceability.
- Implemented algorithms to detect cyclic chains in transaction systems.

Software Engineer Intern — Oct 2021 – Apr 2022
LIS Nepal Pvt. Ltd. — *Lalitpur, Nepal*
- Designed database schemas and employed various indexing techniques to enhance performance and data retrieval.
- Developed and optimized scripts for web crawling, data scraping, and data cleaning to populate databases.

Education

Pulchowk Campus, Institue of Engineering, Tribhuvan University Lalipur, Nepal
Bachelor's in Computer Engineering *Nov 2017 – Apr 2022*
- Thesis: "Sequence Modelling Based Search System" [pdf]
- Courses Included: Computer Programming(C/C++), Data Structure and Algorithms, Database Management System, Computer Networks, Probability and Statistics, Artificial Intelligence, Mathematics, Theory of Computation, Big Data, Image Processing and Pattern Recognition, etc.

Leadership and Teaching Experience

Hack-a-LITE, Kantipur Engineering College

Technical Mentor [link] *Feb 2024*
- Selected by Rara Digital Lab to represent the company as a technical mentor in the hackathon.
- Provided guidance on problem solving, writing efficient code, debugging approaches, good coding practices, selection of tech stack as per project requirements to 30+ BE students. [link]

Institute of Engineering, Pulchowk Campus

Tutor, Software Fellowship *Jul 2021*
- Taught a module on Debugging and Testing to a class of 30+ undergrad students under the Software Fellowship program organized by LOCUS

Tutor, Version Control Systems [certificate] *Jun 2019*
- Organized and taught a 10-day course on Version Control System under the Department of Electronics and Computer Engineering, Pulchowk Campus in June 2019.

Awards and Engagements

- **Subject Achiever's Award** for highest grade in Computer Science, Grade XI
- **Hack-A-Week**, LOCUS: A week-long hackathon
  - **2019**: Developed a disaster response app using Django, HTML/CSS, and OSM Maps.
  - **2020**: Developed a responsive site and a pwa using Django, HTML/CSS and OSM Maps.
- **Project Competition**, LOCUS: Biggest national technological exhibition with 50,000+ visitors.
  - **2018**: Demonstrated a physics simulator made in Python using pygame.
  - **2020**: Demonstrated a Sign Language Identification System.

Language Skills

- **English**: Fluent (IELTS 8.0)
- **Japanese**: Conversational (JLPT N3)
- **Others**: Nepali, Hindi