Navin Nepal

Imadol, Lalitpur

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Technical Skills

DevOps & Systems: Ubuntu, Docker, Github actions, Nginx, Terraform, k8s, AWS (EC2, ALB, S3, IAM, CloudWatch, ECR, SQS)
Backend & API Development: Python, FastAPI, Django
Database: postgresql, SQLite3
ML and Data: PyTorch, OpenCV, Numpy
Version Control: Git

EXPERIENCE

DevOps Internship at Verisk October 2025 - Jan 2026

DevOps, CI/CD, Containers *AWS, Docker, Linux, GitHub Workflows, Terraform*

- Designed and maintained CI/CD pipelines using GitHub Actions, automating build, test, and deployment workflows.
- Deployed load-balanced applications on AWS EC2 with ALB, configuring health checks and traffic routing for high availability.
- Implemented zero-downtime deployment strategies including blue-green deployments and rollback mechanisms.
- Containerized backend and frontend services using Docker and Docker Compose, integrating Nginx as a reverse proxy for request routing.
- Provisioned and managed AWS infrastructure using Terraform, including compute, networking, IAM roles, and security groups.

Projects

Cloud-Native Scalable Weather Platform github.com/marconn01/Verisk_Internship

Event-Driven Distributed System *AWS services, CI/CD, Docker, EC2, ECR, S3, Linux, Terraform*

* Designed and deployed production grade scaleable cloud-native application by using Dockerized services on AWS EC2 with ALB based traffic distribution.
* Implemented Infrastructure as Code using Terraform for provisioning EC2, ALB, IAM roles, and networking components reproducibly.
* Built a fully automated CI/CD pipeline with GitHub Actions and Amazon ECR for image build, versioning, and deployment, Also used blue green deployemnt for zero downtime.
* Designed an event-driven, fault tolerant data pipeline using Amazon SQS with decoupled producer consumer services.
* Implemented Observability and reliability practices using CloudWatch logs, metrics, automatic health checks, and SNS based alerting.

Rule-Based Self-Healing Kubernetes Infrastructure

Automated Failure Detection & Remediation Platform *Kubernetes, Prometheus, Grafana, Python*

* Designeed a Rule Based self healing system that detects service failure and automatically performs restart, scaling and rollback actions
* Implemented Prometheus based coltrol loops using latency, error rate and, and restart metrics to trigger recovery
* Built a python remediation service integrating with k8s API, Including circuit breakers
* Validated Recovery by injecting crashes in test environment

DataBridges: Backend and Data Analysis github.com/bhattaraisushma/DataB

Dataset Exploration Platform *FastAPI, Pandas*

* Engineered an API to query and retrieve datasets from multiple sources.
* Integrated external APIs (data.gov, Canadian Space Agency) to aggregate and display datasets on a single platform.
* Performed exploratory data analysis (EDA) to assess dataset suitability for integration into Geographic Information System (GIS) application
* Structured the system for scalability, stateless services, and environment-based configuration.

Realtime Voting System github.com/marconn01/VotingSystem

Django, SQLite3, Manual DB Management, centralized ledger *Python, Django, SQLite3*

* Developed a real-time voting system with Django and SQLite3.
* Implemented a centralized ledger with vote hashing for record integrity.
* Implemented automated election start/end with Django admin and scheduled tasks.
* Designed a scalable architecture with Role Based Access.

Fabric Flow youtube.com/watch?v=mA_7RsT82rw

Real-Time 2D Cloth Simulation *Python, PyOpenGL, Pygame, NumPy, Multithreading*

* Developed a real time 2D cloth simulation engine using Verlet integration and constraint-based physics.
* Implemented user interactive features like stretching, cloth tearing, and collision with spheres, wind flow, and many planets gravity.
* Optimized performance using multithreaded constraint solving and adaptive timestep handling for smooth simulation.

Experiences

IT Club — President
SOS Hermann Gmeiner School — *(2016-2017)*
* Led the IT Club in organizing and conducting various tech-related ECA events
* Facilitated student engagement in technology through Presentations
* Won Best Demonstration in Parents Meet

Thapathali Literature Club — Technical Lead
Thapathali Campus — *(2023-2024)*
* Handled all technical aspects along with event logistics, digital promotions.
* Designed the official club magazine, managing layout, visual design, and digital formatting
* Initiated club's official website to enhance digital presence

GDG Kathmandu — Volunteer
Kathmandu, Nepal — *(2024-Running)*
* Assisted in managing and curating content for GDG Kathmandu's social media platforms.
* Promoted upcoming events, and meetups, increasing community engagement.
* Backend of events and executed them.

Education

Tribhuvan University — Nepal
Bachelor of Engineering in Computer Engineering — *April 2022 – Present*

Certifications & Trainings

* **MicroDegree™ in AI**, Fusemachines Fellowship
* **Galactic Problem Solver**, NASA Space Apps 2023
* **Winner, Concept Catalyst Ideathon**, IEEE Computer Society Pulchowk Student Branch.
* **CS50p: Introduction to Programming with Python**