

Shubham Raj Paudel

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Professional Summary

An Electronics, Communication and Information Engineering graduate with strong interest in Data Engineering and Machine Learning. Experienced in building real-time data pipelines, UEBA systems, and anomaly detection models using Kafka, OpenSearch, and Python-based ML frameworks.

Experience

Data Engineering & ML Associate

Vairav Technology Security Pvt. Ltd., Baluwatar, Kathmandu

April 2026 – Present

- Architected and developed an **LLM-powered Report Summarizer** for the **Report Engine**, generating executive summaries and section-wise insights from structured security reports
- Implemented an **incremental learning pipeline** for the **UEBA** platform, enabling continuous model updates using newly ingested behavioral data while reducing re-training overhead
- Built a **RAG-based AI chatbot** for internal **Vairav AI** documentation using semantic retrieval and LLMs, providing accurate context-aware responses from official company knowledge

AI/ML Trainee

Vairav Technology Security Pvt. Ltd., Baluwatar, Kathmandu

November 2025 – April 2026

- Designed and implemented **UEBA workflows** based on project-specific requirements
- Developed and tuned anomaly detection models using **Python, PyTorch, and scikit-learn**
- Configured and deployed detectors using **OpenSearch Anomaly Detection plugin**

Research & Development Intern

Vairav Technology Security Pvt. Ltd., Baluwatar, Kathmandu

August 2025 — November 2025

- Researched and implemented a **PoC for anomaly detection** using ML-based detectors, identifying patterns and deviation in time-series data
- Developed log data pipelines using **Python, Logstash** and **OpenSearch**
- Deployed OpenSearch locally using **Docker** to create a controlled experimentation environment

Frontend Developer Intern

Vividify Solutions Pvt. Ltd., Kupandole, Lalitpur

April 2025 — July 2025

- Built responsive UI using **React.js** and reusable components with **JavaScript (ES6+)**
- Used **Git** for version control and collaboration

Projects

User and Entity Behavior Analytics (UEBA)

- Developed a real-time **UEBA system** to detect anomalous user behavior from log data
- Built data pipelines using **Apache Kafka** and processed logs for analysis
- Engineered features and supported model development using **Python, PyTorch, and scikit-learn**
- *Tools/Tech Used: Apache Kafka, OpenSearch, Python, PyTorch, scikit-learn, Logstash, Docker*

Land Use and Land Cover Analysis Using AI with Drone-Captured Aerial Footage

- Developed an AI-based system for land use analysis using drone imagery
- Integrated deep learning segmentation and geospatial visualization
- *Tools/Tech Used: Python, TensorFlow, FastAPI, Leaflet.js, Agisoft Metashape, U-Net, Label Studio, OpenCV*

IoT-Based Health Monitoring System

- Built an IoT-based health monitoring system measuring vital parameters
- *Tools/Tech Used: Arduino IDE, NodeMCU ESP8266, ThingSpeak Cloud, MIT App Inventor, GSM SIM800L, MAX30100, DS18B20, MQ-135, AD8232*

Education

B.E. Electronics, Communication, and Information Engineering (BEI)

Advanced College of Engineering and Management
Institute of Engineering, Tribhuvan University (TU)
2021 — 2025

Cumulative Percentage: 78.29%

NEC Registration No. : 95419

Higher Secondary Education (+2)

GoldenGate International College, Kathmandu

Year of Passing: 2020

CGPA: 3.15

Secondary Education Examination (SEE)

Nagarjuna Academy, Lalitpur

Year of Passing: 2018

CGPA: 3.70

Technical Skills

- **Programming Languages:** Python, SQL, C++, JavaScript
- **Machine Learning & AI:** PyTorch, scikit-learn, NumPy, Pandas, OpenCV, Incremental Learning, Anomaly Detection, UEBA
- **Generative AI:** Large Language Models (LLMs), Retrieval-Augmented Generation (RAG)
- **Data Engineering:** Apache Kafka, Logstash, ETL Pipelines, Real-time Data Processing
- **Search & Vector Databases:** OpenSearch, Elasticsearch, Qdrant
- **Backend Development:** FastAPI, gRPC, REST APIs
- **DevOps & Platforms:** Docker, Linux, Git, GitHub, GitLab
- **Web Technologies:** Web Development (React.js)
- **Embedded Systems & IoT:** Arduino, NodeMCU ESP8266, Internet of Things (IoT)

Participation

- Nepal Hacks @ SecurityPal (May 2025)

Soft Skills

- Communication, Problem Solving, Documentation, Leadership