AVIMANYU GHIMIRE

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PROFESSIONAL SUMMARY

Detail-oriented Data Science student and technology enthusiast with hands-on experience in simulation modeling, data analysis, and software development. Proven track record in implementing technical solutions across environmental, engineering, and agricultural projects. Experiences in collaborative project works and community development.

EDUCATION

B.S. Data Science Aug 2024 – Present

Mississippi State University

Computational Intelligence •

Minor in Electrical Engineering • **GPA: 4.21**

High School Diploma Graduated August 2023

Ambition Academy

Science and Technology • **CGPA: 3.77**

PROFESSIONAL EXPERIENCE

Simulation & Analysis Assistant

May 2023 – July 2024

Sanvi Energy Limited • Ilam, Nepal

(7.6+5.2 MW hydropower project in a rural area)

- Assisted in infrastructure analysis projects using HEC-RAS and Civil 3D for road feasibility assessments.
- Simulated water flow patterns using SWAT for environmental impact studies.
- Processed survey data with Excel, ArcGIS, and Python to support feasibility studies.
- Worked with senior engineers on transportation and drainage modeling using PTV Vissim and SIDRA.
- Created detailed reports and presentations using PowerPoint, Excel, and LaTeX.

Project Management Intern

Feb 2022 – Dec 2022

DAS Environmental & Engineering Research Center • Kathmandu, Nepal

- Managed backend systems for customer support operations using Node.js, Express, and MongoDB.
- Developed an automated portal for employee assessments using Python and REST APIs.
- Integrated marketplace APIs using PHP to streamline orders and project requests.
- Contributed to 12+ software and engineering projects while leveraging tools like JIRA and Git.

Smart Farming & Precision Agriculture

2022 – Aug 2024

Namsaling Community Development Centre • Ilam, Nepal

(NGO dedicated to sustainable rural development; Volunteer since the time of COVID-19)

- Analyzed soil characteristics across rural Nepal using QGIS and Tableau to inform strategic agricultural planning.
- Developed interactive dashboards with React.js, Dash, and SQL for real-time reporting.
- Built a responsive website with HTML, CSS, and Django to automate reporting processes.
- Served as a liaison between the community and the organization to address queries and communicate solutions.
- Trained 250+ local youths in basic technical tools, empowering them to tackle regional challenges.

NOTABLE PROJECTS

Smart File Manager 2025

- Developed a sophisticated file management system with Python and Tkinter, featuring an intuitive GUI for efficient file organization and analysis.
- Implemented advanced file analysis algorithms for duplicate detection, file categorization, and smart organization suggestions, reducing storage waste by up to 25%.
- Engineered a robust backup management system with automated suggestions based on file access patterns and usage analytics.
- Integrated multi-threaded processing for handling large directories, with progress tracking and cancelable operations for improved user experience.

RetroTech Auto Analysis 2024

- Engineered a real-time vehicle diagnostics platform using Python Flask and OBD-II protocols, processing 20+ engine metrics for comprehensive performance analysis.
- Implemented predictive maintenance system using scikit-learn for anomaly detection and component health monitoring, achieving 85% accuracy in failure prediction.
- Designed a retrofuturistic UI with Plotly.js and custom CSS, featuring real-time data visualization, CRT screen effects, and automated system diagnostics.

Smart Agriculture Monitoring System

- Developed an IoT-based system using Arduino sensors to monitor soil conditions.
- Created a web dashboard with React.js and Node.js for real-time data visualization.
- Implemented machine learning models for crop yield prediction.

Environmental Data Analysis Platform

- Built a comprehensive data analysis platform using Python and Django.
- Integrated multiple data sources through RESTful APIs.
- Designed interactive visualizations using Tableau and D3.js.

Stock Market Analysis

- Conducted sentiment analysis on news data to evaluate market dynamics.
- Integrated APIs to collect news from multiple sources.
- Analyzed inflation and market metrics, acknowledging limitations in predictability.

Personal Portfolio

- Built a fully responsive, professional website using HTML, CSS, React.js, and Node.js.
- Designed custom sections and interactive cards for an engaging user experience.

TECH STACK

Programming Languages

- Python, C++, HTML, CSS, Bash (Fully Proficient)
- JavaScript (Intermediate)
- SQL, R, PHP (Beginner)

Simulation & Modelling

- HEC-RAS, SEAMM, Civil 3D (Basic)
- SWAT (Intermediate)

Data Analysis & Visualization

- Python (Pandas, NumPy, Matplotlib, etc.), Excel (Proficient)
- Tableau, Power BI (Intermediate)
- R, QGIS, ArcGIS (Basics)

Machine Learning Libraries

- Scikit Learn, TensorFlow, Keras (Beginner)

Web Development & APIs

- Django, React.js, Node.js (Intermediate)
- Express, PHP, RESTful APIs (Basics)

Databases & Tools

- SQL, Git, Jira