

Bibek Bhatta

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Summary

Results-driven **Python Developer** with over **5 years of experience** in **3-D Printing, Electronics, REST API development, Machine Learning, Computer Vision, and Data Analytics**. Proficient in building robust applications with **FastAPI** and leveraging libraries such as **PyTorch, Pandas, Matplotlib, OpenCV, and NumPy**. Passionate about **Machine Learning** and possess a proven track record of contributing to **Open-Source** projects. Skilled in leveraging a strong foundation in **mathematics** to solve complex analytical problems. Highly interested in aerodynamics, design and control systems of Unmanned Aerial Vehicle Systems.

Education

Bachelor of Science in Mechanical Engineering

December 2028

Mississippi State University • Starkville, Mississippi • Freshman

Cumulative GPA: **4.0/4.0**

- Colvard Future Leader Scholarship | Freshman Academic Excellence Scholarship.

Cambridge International Advanced Levels

August 2023

St. Xavier's College • Maitighar, Kathmandu

- Bronze Honor International Youth Math Challenge | Bronze National Science Exhibition | Bronze Budanilkantha National Math League | Gold Provincial Information Technology Olympiad | Silver National Information Technology Olympiad

Experience

Technical Lead

June 2021 - Present

Mathematical Association of Nepal / Kathmandu, Nepal

- Develop comprehensive registration and training software using **Python, FastAPI, DaisyUI**, and **SvelteKit**, significantly enhancing user experience and operational efficiency
- Engineer a training application with **Python** and **DearPyGUI**, supported by a **FastAPI** backend, to improve the training processes
- Create a custom **PDF-to-image generator** for **LaTeX processing** and design a specialized **MongoDB database** for mathematical problems

Backend Engineer and Machine Learning Developer

August 2024 - June 2025

usjany / Kathmandu, Nepal

- Developed a production-level backend server using **FastAPI**, with **Python** libraries including **BeautifulSoup** and **Requests**, and a **PostgreSQL database**
- Built and fine-tuned a custom **Large Language Model** powered by Meta AI's **Llama-3.1 8B**, implementing a **Retrieval-Augmented Generation (RAG)** pipeline to enhance response accuracy

Machine Learning Developer

February 2023 - June 2023

Agrisense / Kathmandu, Nepal

- Developed and implemented a custom **CNN-based image processing model** utilizing **Scikit-learn, NumPy**, and **OpenCV** for plant disease detection to enhance agricultural diagnostics.
- I modelled a sanctuary, for presentation, in **Free CAD** and **3D-printed** it in **PLA**, optimizing the design for **FDM** printing with proper wall thickness, layer height, and minimal supports.

Machine Learning Developer

December 2022 - May 2023

Traverse / Kathmandu, Bagmati

- Engineered a custom recommendation engine using **NumPy** and **PyTorch** to suggest places based on user itineraries, enhancing user personalization and engagement

Project Lead / Lead Developer

October 2022 - November 2022

NASA Space Apps Challenge / Kathmandu, Bagmati

- Developed an interactive 3D model of the International Space Station (ISS) and its orbit using **Three.js** and **JavaScript**

Skills

Technical: 3D Printing, Free CAD, Fusion 360, ESP32, RaspberryPi, Python, OpenCV-Python, PyTorch, FastAPI, JavaScript, ThreeJS, SvelteKit, Rust, Bevy, C++, Excel, Word, PowerPoint Presentation, Machine Learning, Data Engineering and Visualization, Git(hub), Database, Linux

Soft: Teamwork, Leadership, Time Management, Creativity, Work Ethic, Communication, Organization, Collaboration, Mentorship, Problem Solving