Bijay Kumar Yadav

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Professional Summary

Detail-oriented and highly motivated aspiring Software Developer, Data Analyst, and Machine Learning practitioner with strong foundations in statistics, data structures, and system design. Proficient in Python, SQL, JavaScript, and modern development frameworks for building scalable applications and data-driven solutions. Hands-on experience in developing full-stack systems, real-time applications, and ML models to solve real-world problems. Quick learner with strong analytical thinking, problem-solving skills, and a collaborative mindset.

Education

Kalinga Institute of Industrial Technology (KIIT) *Exp. Graduation June 2027*

B.Tech – Computer Science & Engineering (Current) - CGPA: 8.01

Bhutan Devi Ma.Vi - Class XII (2023): 3.38/4 *2023*

Bhutan Devi Ma.Vi - Class X (2021): 3.76/4 *2021*

Technical Skills

Programming: Python, Java (OOPS)), C

Web Development: HTML, CSS, JavaScript

Data & ML: Sckit-learning, NumPy, Pandas, Matplotlib, Data Cleaning, Model Building

Data Analysis Microsoft Excell(Pivot Tables,VLOOKUP, Advance Formulas),SQL(Queries,Joints,Aggregations)

Visulaization: Excell,Power-BI(DAX, Data Modeling, Interactive Dashboard)

Systems & Tools: Pycharm,Pytorch,GitHub, Docker, Power BI, Excel, Arduino UNO, Figma

Software Development: SDLC, Unit Testing (Basics), Debugging & Troubleshooting

Computer Science Fundamentals: Data Structures & Algorithms, RDBMS (Normalization, Indexing, Constraints), Database Design

Soft Skills: Project Management, Team Collaboration, Critical Thinking, Communication, Problem Solving, Time Management

Projects

CloseSpace — Full-Stack Private Messaging Platform
FastAPI · PostgreSQL · WebSocket · JavaScript

- Built a full-stack real-time chat application using FastAPI, PostgreSQL, and WebSocket with AES-256 end-to-end encryption, JWT authentication, and multi-room persistence for private and group conversations.
- Developed a feature-rich frontend using Vanilla JavaScript with 5 UI themes, typing indicators, unread message counters, online presence tracking, message deletion, and integrated personal tools (notebook, digital album, mood board).
- Designed a responsive landing page with animated UI components, scroll-reveal effects, drag-scroll carousels, and custom cursor interactions; deployed on a custom subdomain with SSL using Nginx.

AI Face Forensic System (Deepfake & AI Image Detection)

- Built an industrial-level ML pipeline to classify real vs AI-generated images and detect deepfakes to raise awareness about online scams and misinformation.
- Designed a multi-stage model architecture to identify camera-captured images and detect synthetic media.
- Implemented data preprocessing, feature extraction, and model evaluation for real-world deployment scenarios.

Microplastic Detection using Deep Learning
Python · TensorFlow/PyTorch · OpenCV· CNNs (YOLO or MobileNet) · Flask/FastAPI

- Built a full-stack AI web application to identify and classify microplastic pollution in water samples, utilizing Python, Flask, and a responsive HTML/CSS/JS frontend.
- Implemented transfer learning using TensorFlow and Google's InceptionV3 model to accurately process microscopic images and categorize particles into 6 distinct classes (beads, fibers, films, foam, fragments, and organic matter).

- Developed a real-time inference pipeline that preprocesses user-uploaded images and extracts dynamic prediction probabilities directly from the neural network.

Personal AI & ML Portfolio Website
HTML5 · CSS3 · Vanilla JavaScript · Cloudflare · GitHub Pages

- Developed a fully responsive, modern portfolio website from scratch using HTML5, CSS3, and Vanilla JavaScript to professionally showcase machine learning projects and data analytics skills.
- Engineered a dynamic user interface featuring a local-storage-enabled dark/light mode toggle and a custom, math-based neural network particle animation built with the HTML5 Canvas API.
- Deployed the application using GitHub Pages and configured Cloudflare DNS to securely route traffic (HTTPS) to a custom .com.np domain, ensuring fast load times and professional branding.

Obstacle Detection System for Blind People (IoT + Embedded ML)

- Developed a wearable smart navigation device using ESP8266 and ultrasonic sensors to detect obstacles in real time.
- Designed an alert mechanism using buzzer/vibration feedback to improve mobility and independence for visually impaired users.
- Built a low-cost, portable solution addressing real-world accessibility challenges.

Certifications

Foundations of Project Management *Coursera*

DevOps with AWS: Tools for Automated Workflows *LinkedIn Learning*

Learning Docker *LinkedIn Learning*