BISHAL BABU RAJBANSHI

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OBJECTIVE

Computer Science graduate specialized in AI & ML, aiming to develop intelligent systems and contribute to real-world projects involving machine learning, deep learning, and data-driven solutions. Looking to apply my skills in a role that values innovation, practical impact, and continuous learning.

EDUCATION

B.E. in Computer Science and Engineering (AI & ML), 2021 – 2025
M.S. Ramaiah Institute of Technology (MSRIT), Bengaluru, India — CGPA: 9.53 / 10
SLC (10 + 2), 2019 – 2021
St. Joseph's Secondary School, Biratnagar, Nepal — GPA: 3.33 / 4.0
SEE (10th), 2019
Shree Devkota Secondary School, Jhapa, Nepal — GPA: 3.65 / 4.0

SKILLS

Programming Languages	Python, C++, Java, C, R
Web Development	HTML, CSS, JavaScript, React.js, Bootstrap, Tailwind
AI/ML	Scikit-learn, PyTorch, TensorFlow, OpenCV, XGBoost, LightGBM, NumPy, Pandas
LLMs	Transformers (HuggingFace), LangChain, OpenAI API, Gemini API, RAG
NLP	spaCy, NLTK, Sentence Transformers, BLIP, Whisper
MLOps	MLflow, DVC, Docker (basic), GitHub Actions (basic CI/CD)
Deployment	Flask, FastAPI, Streamlit, Gradio
Database	SQL, MongoDB
Tools	Google Colab, Jupyter Notebook, Git, GitHub, LaTeX, Postman
Soft Skills	Problem Solving, Creativity, Leadership, Teamwork, Communication

RESEARCH EXPERIENCE

Comparative Analysis of Class Imbalance Techniques Using GANs and Traditional Methods
Bank Marketing Dataset — Aug 2024 – Oct 2024

- Investigated advanced GAN-based oversampling techniques to address class imbalance, improving fairness and accuracy in machine learning models for finance and healthcare.
- Demonstrated that GAN methods, particularly CTGAN, significantly boost predictive reliability and reduce bias, enabling equitable and trustworthy AI systems.
- Provided insights to develop smarter AI solutions that enhance decision-making, benefiting industries through better resource allocation and risk management.

A Novel Approach for Bitcoin Price Prediction
Presented at IEEE North Karnataka Subsection Conference (NKCon) — 2024

- Designed deep learning models that improve cryptocurrency price prediction accuracy, aiding investors and policymakers in volatile markets.
- Delivered more reliable forecasts that stabilize financial decisions and mitigate risk, supporting economic resilience in emerging digital economies.
- Bridged traditional finance with AI techniques, advancing data-driven insights to empower informed and hresponsible investment strategies.

EXPERIENCE

Intern, UI/UX Designer and Frontend Developer   Mar 2025 – Aug 2025
Maurisys Software Pvt. Ltd., Kathmandu, Nepal

- Designed and developed UI/UX for Sastobazar e-commerce, reducing checkout steps from 5 to 3 and cutting user friction by 25% via wireframing and prototyping in Figma.
- Revamped Maurisys website using HTML, Tailwind CSS, and JavaScript, lowering bounce rate by 15% and generating 2 new international client leads within weeks.
- Built a modular frontend for AchieverPath.com with 25 reusable components, reducing page load time to 1.5 seconds.
- Conducted manual testing over 50+ UI scenarios, fixed 20 bugs, and enhanced admin dashboard with dynamic charts, reducing task times by 60%.
- Collaborated in agile sprints with cross-functional teams, presenting prototypes to international clients and iterating based on feedback to meet business goals.

IT Intern   Sep 2023 - Oct 2023
Bageshwari Hospital Pvt. Ltd., Kathmandu, Nepal

- Built a responsive hospital appointment platform using React, TypeScript, and Tailwind CSS, streamlining patient booking and admin workflows.
- Implemented live doctor filtering, smart date/time selection, and patient notes, reducing scheduling time by 40%.
- Automated real-time notifications with EmailJS, cutting manual follow-ups and speeding response times by 50%.
- Developed reusable, accessible UI components for easier maintenance and future upgrades.
- Managed full project lifecycle, demonstrating full-stack skills and delivering measurable business impact.
- Supported ongoing web app maintenance and collaborated with IT to enhance digital services.

PROJECTS

AI-Powered Video Summarization, Q&A & Construction Site Report Generation *Aug 2024 – May 2025*
Final Year Engineering Project

- Built AI system for video summarization, Q&A, and construction reporting using MoviePy, OpenCV, YOLOv8, BLIP, and SMOLVLM-500M, reducing manual analysis time by 80%.
- Developed Flask-based web interface with TypeScript, React, and Tailwind CSS for video uploads and report downloads; achieved 4.3/5 user satisfaction (n=20).
- Created summarization pipeline with MoviePy, Pydub, and Whisper, generating LLM-based summaries and interactive Q&A (92% relevance, ≤ 1.8s latency).
- Enabled construction report generation using YOLOv8 (92% precision) and BLIP, with real-time monitoring via SMOLVLM-500M on llama.cpp server (sub-second latency).

DeepFake Image Detection   Mar 2024 – May 2024
Safeguarding digital truth in the era of AI-generated misinformation

- Engineered a deepfake detection system using Convolutional Neural Networks (CNNs), achieving 95% accuracy on tampered vs. authentic image datasets.
- Deployed a real-time Flask-based web app enabling users to upload and verify image authenticity, empowering journalists, researchers, and the public.
- Reduced manual verification effort by automating detection, significantly lowering exposure to misleading content and misinformation.

Image Caption Generator for Visually Impaired Users Dec 2023 – Jan 2024

Enhancing digital accessibility through AI-powered visual understanding

- Designed an image captioning pipeline using LSTM and vanilla RNNs to generate rich, context-aware descriptions from visual input.

- Enhanced output quality using attention mechanisms, achieving BLEU score improvements and generating captions with over 85% contextual accuracy.

- Built a scalable system capable of converting images into natural language, supporting independent web navigation for visually impaired users.

ACHIEVEMENTS AND CERTIFICATION

Best Outgoing Student, MS Ramaiah Boys Hostel 2025
Recognized for outstanding academic performance, leadership, and extracurricular contributions.

Academic Excellence, Ramaiah Institute of Technology 2025
Graduated with a CGPA of **9.53** in Computer Science Engineering (AI & ML), ranking in the **top percentile**.

Problem-Solving Proficiency on LeetCode May 2024
Solved **150+** algorithmic problems, showcasing strong **data structures** and **problem-solving skills**.

Cloud Computing Certification, AWS Educate May 2024
Completed AWS Educate's cloud computing program, gaining hands-on experience with **EC2, S3, Lambda, IAM, and deploying scalable cloud applications**.

COMPEX Scholarship Awardee 2021
Received full-ride, merit-based scholarship under the **COMPEX Scheme** by the **Embassy of India, Kathmandu, Nepal,** for undergraduate study in India.

POSITIONS OF RESPONSIBILITY

Volunteer Team Leader, National Service Scheme Feb 2023 – Mar 2024
Led and coordinated volunteer activities, driving community engagement and successful event execution.

Core Organizing Member, CentuRITon — National Level Hackathon Nov 2022
Contributed to planning and managing a large-scale hackathon, ensuring smooth operations and participant support.