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Lalitpur, Bagmati, Nepal

OBJECTIVE

Dedicated computer engineering student with a genuine passion for data science and machine learning. Skilled in analyzing complex datasets and building models to solve practical problems. Excited to contribute to meaningful projects while learning and growing alongside a forward-thinking team.

PROJECTS

- **SignScribe: ASL Classification** 2023
Tools: [TensorFlow, OpenCV, MediaPipe] 
 - Developed a real-time sign language classification model for recognizing American Sign Language (ASL) hand signs
 - Implemented background subtraction techniques using OpenCV to enhance model accuracy, achieving robust classification performance
 - Applied MediaPipe for hand tracking and feature extraction, optimizing the system's ability to accurately interpret hand signs
- **Skin Cancer Detection (Research Grant)** 2024
Tools: [TensorFlow, Huggingface, OpenCV, FastAPI, Streamlit] 
 - Built a 4-stage pipelined system to detect skin lesions, classify them as benign or malignant, and further identify subcategories from dermoscopic images
 - Explored and applied image processing techniques including hair removal and OpenCV contour-based mole extraction to improve preprocessing and model experimentation
 - Trained and evaluated deep learning models using TensorFlow; deployed best-performing models on Hugging Face for scalable accessibility
 - Developed an API using FastAPI and integrated it into an interactive diagnostic web app built with Streamlit, enabling seamless real-time classification and user interaction
- **FeatherFind: Bird Call Classification** 2024
Tools: [Librosa, TensorFlow] 
 - Developed a model to classify bird species based on audio recordings, with a focus on real-world application for accurate bird identification
 - Leveraged Librosa for sophisticated audio processing and feature extraction to enhance classification accuracy
 - Implemented data augmentation techniques to enrich the training dataset, ensuring model robustness
- **Q-tips: Question from Answer Generator** 2024
Tools: [Transformer, NLTK, BERT] 
 - Developed a machine learning model for generating questions from the provided answer, aiming to improve automated content generation and information retrieval
 - Utilized transformer architectures, such as BERT and GPT, for advanced natural language understanding and response generation to enhance the relevance and accuracy of generated content
 - Implemented data augmentation and fine-tuning techniques on large-scale text datasets to optimize model performance and ensure high-quality question-answer outputs

<ul style="list-style-type: none"> • Forge Of Valinor: An Infinite Craft Clone Tools: [React, Express.js, Llama3, MongoDB] ◦ Developed an AI-powered crafting game using Llama3 to generate unique element combinations. ◦ Built a backend with Express.js and MongoDB to manage player data and persistent game state. ◦ Designed an interactive front-end in React for fluid and engaging gameplay experiences. 	2024 [🔗]
<ul style="list-style-type: none"> • War Of Wits: A Game Theory Simulation Tools: [React, p5.js, Chart.js] ◦ Simulated Axelrod’s Tournament to explore strategies solving the Prisoner’s Dilemma problem. ◦ Visualized simulation outcomes using p5.js for dynamic and intuitive strategy animations. ◦ Analyzed and compared strategy performance trends with Chart.js-based data visualizations. 	2024 [🔗]

PUBLICATIONS

C=CONFERENCE

[C.1]

Samrat Kumar Adhikari, et al. (2024). **American Sign Language Classification using CNNs: A Comparative Study**. In *International Journal on Engineering Technology (InJET)*, pp. 283-295. Kantipur Engineering College. April 2024, Kathmandu. DOI: 10.3126/injet.v1i2.66704

[C.2]

Giri, G., KC, I., Khatiwada, P., Adhikari, S. K., & Shakya, S. (2025). **CNN-Based Bird Sound Detection: A Comparative Performance Study**. In *International Journal on Engineering Technology (InJET)*, 2(2), pp. 176–187. Kantipur Engineering College. June 2025, Kathmandu. DOI: 10.3126/injet.v2i2.78615

<div>SKILLS</div> <ul style="list-style-type: none"> • Programming Languages: Python, JavaScript, C++ • Web Technologies: HTML, CSS, JavaScript, React, Express.js, Flask • Database Systems: MongoDB, PostgreSQL • Data Science & Machine Learning: TensorFlow, Scikit-learn, Pandas, NumPy, Matplotlib, Seaborn, Plotly • Cloud Technologies: AWS Cloud • Version Control: Git • Specialized Area: Natural Language Processing, Computer Vision, Audio Processing • Mathematical & Statistical Tools: PowerBI • Other Tools & Technologies: Linux, Bash, VS Code, Jupyter Notebook • Research Skills: Literature Review, Statistical Modeling, Academic Writing

<div>AWARDS</div> <ul style="list-style-type: none"> • IOE Hult Prize Finalist Hult Prize Foundation ◦ Selected as a finalist in the Hult Prize IOE ◦ Recognized for proposing a sustainable solution to plastic waste management 	2024
<ul style="list-style-type: none"> • Winner at Rapid Coding Aarohan 2.0 ◦ Secured first place in a fast-paced competitive programming contest ◦ Acknowledged for outstanding performance in algorithmic challenges. 	2024

LEADERSHIP EXPERIENCE

- **Organizer at KEC LITE** 2024
Kantipur Engineering College
 - Coordinated event logistics and managed a team of volunteers
 - Led the introduction of interactive workshops, enhancing attendee engagement
- **Organizer at AWS GenAI Bootcamp** 2024
AWS Cloud Club, Nepal
 - Oversaw event planning and speaker coordination
 - Implemented hands-on sessions, improving participant learning outcomes

CERTIFICATIONS

- **Microsoft:** [Fundamentals of Generative AI](#) Jan 2024
- **AWS:** [Machine Learning Camper](#) May 2024
- **Postman:** [Postman API Fundamentals Student Expert](#) Sep 2024
- **Kaggle:** [Intro to SQL](#) May 2025

EDUCATION

- **Kantipur Engineering College** 2025
Bachelor of Computer Engineering Dhapakhel, Lalitpur
- **Motherland Secondary School** 2020
Higher Secondary Level Education Pokhara, Kaski
 - GPA: 3.64/4.00
- **Global Collegiate School** 2017
Secondary Level Education Pokhara, Kaski
 - GPA: 3.80/4.00

REFERENCES

1. **Er. Pralhad Chapagain**
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