Aayushma Pant

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SUMMARY

Results-driven Research student specializing in artificial intelligence, data science, and computer vision. Proficient in multiple programming languages and tools, with a strong passion for data and AI. Highly organized, adept at time management, and skilled in achieving project goals. A quick learner with robust research skills and a proactive approach to staying updated with the latest industry advancements.

KEY SKILLS

- **Key Tech Stack:** Machine Learning, Deep Learning, Computer Vision, Data Science, Applied Mathematics
- **Computer Languages:** Python, Keras/TensorFlow, Pytorch, SQL, Three.js, JavaScript, Flask, Django, HTML5
- **Cloud Stack:** AWS S3, ECR, AWS Lambda, AWS API Gateway, SQS, EC2, GCP, Vertex AI
- **DevOps/MLOps Stack:** Docker, Bash Script, DVC, MLFlow, Airflow, CML, CI/CD
- **Project Management Tools:** Git/GitHub, Notion, JIRA, Kanban framework
- **Soft Skills:** Teamwork, Communication, Presentation, Leadership, Research, Documentation, Task Estimation

EDUCATION

Deakin University, Faculty of Science, Engineering and Build Environment — Waurn Ponds, Geelong, VIC
Master's degree in information technology (Research) — Jan 2025 – Present

- Research in the Hyperspectral Anomaly Detection

TRIBHUVAN UNIVERSITY, INSTITUTE OF ENGINEERING — Thapathali, Nepal
Bachelors of Electronics and Communication Engineering — Nov 2017 – Apr 2022

- Committee member of the Robotics and Automation Center.
- Certified in multiple courses and received scholarships for academic excellence and accomplishments.
- Conducted workshops on AVR, Arduino, Circuit Design using Kicad, and Artificial Intelligence

PROFESSIONAL EXPERIENCE

ANGELSWING INC. — Seoul, South Korea
Computer Vision Research Engineer — Aug 2021 – Nov 2024

- Developed the MVP for 3D mesh generation integrating computer graphics and Structure-from-Motion (SFM) technology.
- Designed and implemented an algorithm for real-time aerial image stitching, leading to a 50% decrease in time complexity and a 40% improvement in memory usage,by utilizing computer vision techniques, GIS, and Mathematical logic.
- Established a complete pipeline for machine learning models targeting aerial ground control point (GCP) detection, reducing manual data processing time by 65% for the CS team.
- Created an MVP of UAV images and video visualization system, resulting in a 25% increase in user engagement compared to previous systems using Three.js and 3D Vision.
- Designed and transformed an Inspection system using Machine Learning (ML), resulting in a 60% improvement in inspection accuracy and operationalized it through MLOPs for automated training and monitoring.
- Led research team by initiating, collaborating, and guiding research projects resulting in a 20% increase in project development efficiency and contributing to the achievement of 90% of OKR targets.
- Represented the company as a keynote speaker and trainer at various industry events and conferences, reaching over 1000 industry professionals and enhancing company visibility by 50%.

SMART CHELI — Lalitpur, Nepal
Lead Educator — Dec 2020 – Nov 2024

- Taught Scratch and Python programming lessons to a classroom of almost 20 students, resulting in increased student engagement by utilizing effective teaching methods and resources.
- Mentored 30 young girls on safe internet browsing and Scratch programming; guided them through 10+ coding projects.

ALPHA AI — Haryana, India
Data Science Intern — Nov 2020 – Mar 2021

Aayushma Pant

- Drove the development of recommendation system application through collaborative efforts with engineers, achieving a 40% reduction in user churn by delivering tailored recommendations that resonated with customer preferences.

RESEARCH PUBLICATION

NEPALI VOICE-CONTROLLED HOME AUTOMATION SYSTEM

- Project aims to use Nepali speech for automating home applications
- Utilizes STFT for audio feature extraction
- Employs CNN-LSTM Neural Network for speech processing
- Uses MQTT technology for communication between database and sensors

PET PROJECTS/STUDENT PROJECTS

CHATTER PATTER – AN AI WEB APP CHATBOT

A web application that uses AI to answer queries on relevant topics like agriculture, health, economics, etc.

DEEP FAKE AUDIO VIDEO DETECTION SYSTEM

This research work focuses on identifying and detecting Deepfake videos and audio. DCT is implemented to extract image features, passed on a multi-layered CNN architecture network and original video images. Likewise, filter banks and MFCC are used for audio processing, followed by CNN architecture to detect real and fake audio.

SUDOKU SOLVER USING COMPUTER VISION

It fetches an image of unsolved sudoku and solves it using the OpenCV, CNN, and backtracking algorithm.

AWARDS

College Topper: Academic Excellence Award (2023)
Bachelor's Degree, Institute of Engineering

Semester Topper: Academic Excellence Award for three semesters
Bachelor's Degree, Institute of Engineering,

PROFESSIONAL AFFILIATIONS

NEPAL ENGINEERING COUNCIL
Registered 'A' grade Engineer,
Registration. No. 9222

CERTIFICATIONS

Deep Learning Specialization
Deeplearning.ai

Machine Learning
Coursera,
Stanford

Generative AI with LLMs
Deeplearning.ai

Data Analytics Internship
KPMG

REFERENCE

Dr Sunil Aryal, PhD, FHEA, Deakin University
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