Akash Rai

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https://github.com/akashrai2003

Education

NITTE Meenakshi Institute Of Technology — Bengaluru, KA, India
Bachelor of Engineering, Electronics and Communication — *8.12 GPA, Dec 2021 – July 2025*

Kendriya Vidyalaya No.2 — Colaba, Mumbai, MH
Class 10th and Class 12th (or equivalent) — *92% & 89.6%, 2018 – 2020*

Experience

AIML Intern — July 2023 – September 2023
AEROGO — *Bengaluru, KA*

- Overseeing camera and sensor integration for an amphibious drone enabling underwater object detection.
- Optimizing Object Detection on RPi4 for high frame rates and enabling internet port forwarding.

Intel Unnati Trainee — June 2023 – July 2023
Virtual — *Bengaluru*

- Developed a Fake News Detection project, implementing the cutting-edge BERT architecture.
- Enhanced the project by introducing a feature for detecting AI-generated fake news with strong generalization.

Google Developer Students Club - Tech Member (ML Team) — 2022 – Present
NMIT — *Bengaluru, KA*

- Working on a variety of tech stacks including Front-End Web Development, Machine Learning and Case Studies
- Connecting with Industry experts through various workshops held by GDSC, and participation in Google Solutions Challenges.

Competitions

Intel Unnati Grand Challenge | *Python, Flask, TensorFlow, Autonomous Vehicles, CV* — Oct 2023

∗ Qualified for finals as one of the top 10 teams out of 180+ teams nationwide and presented our solution at IIIT-Hyderabad before the Mobility Summit 2023 held there.
∗ Our application utilizes 360° camera view for object detection and warns of overtaking or proximity risks.

IEEE Sensors Enclave 24Hr Hackathon | *C, STM32CubeMX, IoT, C-DAC IoT board* — Nov 2023

∗ Secured the runner-up position in the hackathon by developing an IoT-based application for PWM-controlled DC fan to regulate optimal room conditions.
∗ Implemented PubNub and MyMQTT (mobile notifications) when room conditions aren't optimal to transfer data.

Projects

Semantic Search Powered Search Engine with LLM based Summarizer | *Python, Streamlit Cloud, Tensorflow, PyTorch, LLM, Semantic Search, Deployment(GitHub)* — Dec 2023

∗ Developed a patent search engine employing semantic search techniques and nearest neighbors to enhance the precision of search results.
∗ Employed a GPT-2 text generation model, fine-tuning it on our dataset to accomplish the summarization task, ensuring the generation of unique and distinct output texts.

Diabetic Retinopathy Detection | *Python, Flask, Tensorflow, Image Processing, DL* — Feb 2023

∗ Developed a model for classifying the level of DR in a patient with the retinal image
∗ Used MobileNet as base model & deployed the application using Flask to achieve a prediction accuracy of 89 %.

Intel Grand Challenge - Data Analysis of Mobility Dataset | *Python, QGIS, Data Analysis, GeoPandas, Data Vizualisation* — August 2023

∗ Case study on the Unnati Mobility Dataset, containing driver's vehicle information captured via ADAS systems.
∗ Analyzing road safety data to identify causes and proposed solutions for high accident rates in the region.

Chicken-Disease Prediction End-to-End Deployment | *Python, Flask, AWS, Github Actions, DVC , Docker, Tensorflow* Dec 2023

- Implemented an end-to-end project using MLOps practices, deploying a containerized Flask application on AWS with CI/CD enabled through GitHub Actions.
- Analyzing road safety data to identify causes and proposed solutions for high accident rates in the region.

Certifications

DeepLearning.AI DeepLearning.AI TensorFlow Developer Specialization : Convolutional NN, NLP based tasks, Time Series Data
Intel Unnati Industrial Training: Natural Language Processing, Intel OneAPI
Hands-On Deep Learning Using Tensorflow: Transfer Learning
Relational Database and SQL Basics of SQL and using sqlite3, psycopg2(PostgreSQL)

Technical Skills

Languages: Python, C, C++, JavaScript, HTML/CSS
Frameworks: Tensorflow, PyTorch, Flask, Django
Developer Tools: Git, Docker, Google Cloud Platform, AWS, VS Code, PyCharm, DVC, GitHub Actions
Libraries: Geopandas, scipy, plotly, scikit-learn,
Familiarity with Boards: Arduino UNO, RaspberryPi 4B+, STM32 Microcontroller