Sohum Sharma

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Education

PES University, Computer Science 2022-2026
CBSE Class XII Modern School, Barakhamba Road, New Delhi 2019

Experience

Nimble Vision, Intern [Personal Project] February 2025

- Custom trained a YOLOv8 model for three classes and achieved an accuracy of 72%
- Leveraged Qualcomm AI Hub to compile optimize, profile performance, and simplify deployment for Samsung S22 family devices.

Nimble Vision, Intern [Team Project] July 2024-August 2024

- Backend integration for IOT devices, achieved seamless improved system stability with LORAWAN network servers.
- Architected and implemented a scalable solution using Django, HTML, CSS, JavaScript.

Oil and Natural Gas Corporation(ONGC), Intern [Team Project] May 2024-July 2024

- Automated payroll process for ONGC, significantly reduced manual effort, minimized errors, and enhanced timely, accurate payroll delivery.
- Designed and implemented a streamlined system using SAP ABAP to automate data retrieval, processing, and pay slip pdf generation.

Projects

Detection of Multiple Neurological Disorders using Machine Learning and Deep Learning(Ongoing Project)

- Developing a machine learning and deep learning multi-modal model to detect neurological disorders (Alzheimer's, Dementia, Parkinson's) using MRI, PET, and OCT images, annotated using Roboflow.
- Achieved 98 % accuracy with a ResNet model trained on 10,000 MRI images; compared CNN and Transformer architectures with different fusion methods (early, intermediate, late) to identify optimal performance.
- Integrated YOLOv8 for precise region detection and going to utilized LIME and SHAP for clinical interpretability.

BERT+ResNet based Multimodal Emotion Detection

- Developed a multimodal deep learning model combining textual embeddings (BERT) and visual features (ResNet50) to classify emotions.
- Achieved 68% accuracy by extracting text embeddings from sentences and visual features directly from video frames.
- Enhanced prediction performance by effectively integrating textual and visual data into a unified end-to-end model.

BERT-based Question Answering System

- Built a question-answering system using a BERT-based model trained on the CoQA dataset for accurately extracting answers from text.
- Transformed and tokenized data into a SQuAD-like format, implementing custom PyTorch data loaders and fine-tuning BERT using Hugging Face's Transformers library.
- Integrated experiment tracking with Weights & Biases (wandb) to monitor training progress, achieving improved model accuracy through effective hyperparameter tuning.

Full-Stack Concert Ticket Booking System

- Developed a full-stack web application for booking concert tickets, providing a smooth and efficient user experi-

ence.

- Built the backend using Flask (Python) and handled database management with MySQL.
- Designed a clean and user-friendly frontend using HTML and CSS for easy customer interaction.

Fitness Tracker Using DSA (Hash table)

- Streamlined fitness data retrieval (optimized performance) using hash tables.
- Improved data management (fast access) through advanced algorithms.
- Boosted tracker efficiency (rapid processing) with effective DSA integration.

Courses

- Generative AI for Everyone(Open AI)
- Generative AI with LLMs(Open AI)
- How Diffusion Models Work(Open AI)
- Neural Networks and Deep Learning(Open AI)
- Mastering Excel for Data Analytics from NSIC with A1 grade certificate