

Kunal Chavan

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PROFESSIONAL SUMMARY

A dedicated AI enthusiast with a Bachelor's degree in Electronics and Communication Engineering, motivated to contribute innovative solutions. My experience spans AI development, machine learning, and IoT projects using edge devices. I am eager to learn and collaborate with teams to drive impactful projects forward.

EDUCATION

- Vellore Institute of Technology** Vellore, India
Bachelor of Technology - Electronics and Communication Engineering; GPA: 8.21 July 2021 - June 2025
Courses: Analog Circuits, Digital Electronics, Artificial Intelligence, Machine Learning, Natural Language Processing, Image Processing

EXPERIENCE

- National University of Singapore** Remote
Research Intern Jan 2024 - Present
 - Implementing an advanced anomaly detection models, consisting of machine learning, deep learning, and ensemble learning techniques to identify and tag potential security threats in IoT devices.
 - Striving to optimize model performance and ensuring the robust integrity of IoT device network traffic, contributing to a resilient and secure network infrastructure.
- IIT Dharwad.** Dharwad, India
Research Intern June 2024 - July 2024
 - Developed and deployed object detection and distance tracking models on the Nvidia Jetson Nano, utilizing the YOLOv8 model for better accuracy and performance.
 - Gained hands-on experience with edge devices and troubleshooting deployment challenges, including working with the flash-attn library for implementing Vision Language Models.
- Vellore Institute of Technology.** Vellore, India
Computer Vision Intern March 2024 - July 2024
 - Working on an Edge Device capable of leveraging Computer Vision to detect objects in both daylight and low illumination environments. By integrating advanced algorithms and optimizing hardware resources, our goal is to develop a robust solution that can accurately identify objects in varying lighting conditions.
 - The resulting Edge Device will have wide-ranging applications in surveillance, autonomous vehicles, and smart home systems, offering enhanced security and functionality in diverse environments.
- Quickheal.** Pune, India
Data-Science Intern Sept 2023 - Nov 2024
 - Contributed to the implementation of Machine Learning techniques, particularly focusing on handling High Cardinality Categorical Features in Actuarial Applications, as outlined in a published research paper..
 - Played a key role in supporting the senior data scientist throughout the project, providing valuable assistance in data analysis and model development.

SKILLS SUMMARY

- Languages:** Python, C, C++, SQL, JAVA
- Frameworks:** TensorFlow, PyTorch, Hugging Face, Keras, Scikit-learn, SpaCy
- Dev Tools:** VS Code, Jupyter Notebook, Anaconda, AWS Cloud, GPT/LLM API integrations
- Platforms:** Linux, Windows, Arduino, Raspberry, Nvidia Jetson, AWS, IBM Cloud
- Soft Skills:** Leadership, Event Management, Writing, Public Speaking, Time Management

PROJECTS

- Object Detection and Distance Tracking at Night for Vehicle Safety:** Utilized advanced computer vision techniques with YOLOv8, YOLOv7, YOLOv6, and YOLOv5 models on a Raspberry Pi 5 platform to develop a vehicle safety system for low-light conditions. The system accurately detects nearby vehicles and measures distances to preemptively using Vision Eye and alert drivers or adjust autonomous vehicle trajectories, enhancing road safety and advancing autonomous driving technology.
- Email Generator using LLAMA-2:** Developed an Email Generator using LLAMA-2 LLM. Employed techniques such as fine-tuning and tokenization to optimize model performance and achieve better results in email composition. And Deployed on Website Application through Streamlit
- Anomaly Detection in IoT Devices using machine learning:** Developed a Model which utilizes Machine Learning with Pyshark to Study the Network Packet and Detect various kinds of Cyberattack eg. DDos, DNS Hijacking, etc and Mitigates them.
- Multi Category Spam Classification Model:** Created Machine learning and NLP based Multi-Category Spam Classification model which can classify the given spam mail into different type of spam categories like Phishing, Malicious, etc.