RITESH SINGH

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EDUCATION

GRAPHIC ERA UNIVERSITY
B.Tech. in CSE with specialization in ML & AI
CGPA: 9.02/10
June 2024 | Uttarakhand

KVM PUBLIC SCHOOL
CBSE (CLASS XII)
Percentage: 94.8%
2020

SKM SR. SEC. SCHOOL
CBSE (CLASS X)
Percentage: 82%
2018

LINKS

Github:// quirrelHK
LinkedIn:// riteshsingh
Portfolio:// riteshsingh

COURSEWORK

UNDERGRADUATE

Data Structures & Algorithms
Machine Learning
Artificial Intelligence
Deep Learning
Database Management System
Object Oriented Programming
Operating Systems
Computer Networking

SKILLS

PROGRAMMING & TOOLS

Languages:
Python HTML
Latex

Tools & Framework:

Django	TensorFlow/Keras
Pandas	Scikit-learn
Git	matplotlib
NumPy	LangChain
Docker	Postman
PyTorch	Ollama
OpenCV	FastAPI

Database:
PostgreSQL MySQL

EXPERIENCE

IIT ROORKEE | Project Associate
July 2024 - Present | Roorkee, Uttarakhand

- Developed algorithm for real-time image processing on embedded devices such as *Nvidia Jetson Nano*, *Raspberry Pi*, etc.
- **Reduced operational costs by 40%** through optimization of real-time computer vision algorithms, improving resource allocation and efficiency
- Utilized distributed computing on a cluster of nodes, **decreasing ML model training time by 53%, resulting in resource efficiency**.

IIT ROORKEE | Research Intern
May 2023 - May 2024 | Roorkee, Uttarakhand

- Fine-tuned an object detection model and implemented an object tracking algorithm, **achieving an accuracy of 91%.**
- Engineered image processing algorithms to extract vehicle kinematics, with **results accurate within 5% of actual values**.
- Demonstrated strong research and analytical abilities in optimizing real-time image processing.

SKY CYBERNETICS | AI Intern
June 2023 – Aug 2023 | Remote

- Trained an audio classification model to identify water wastage from a tap with an **accuracy of 76% using a novel dataset.**
- To run on edge devices, a lite version of the model was created and **deployed on a Raspberry Pi 4.**
- **Reduced processing time by 27%** by optimizing the algorithm to process in real-time.

PROJECTS

FATIGUE DETECTION | Computer Vision
February 2023 - April 2023

- Developed a web app that uses deep learning to *detect fatigue levels* in a person accurately.
- Implemented a multi-CNN model analyzing specific regions of interest on the face, **achieving an 86% accuracy rate**.
- After analyzing facial features the model provides a fatigue level to the user and remedies if the fatigue level is high.

VOICE SEARCH | Speech Recognition
March 2022 - June 2022

- Developed a web application that **enables voice search** functionality for searching C programs.
- Provides real-time speech search, the web app is **deployed on Heroku.**

ACHIEVEMENTS & RECOGNITION

- Special Recognition - TrafficEye
  Bengaluru Mobility Challenge, 2024
- ITD: Indian Traffic Dataset for Intelligent Transportation Systems
  COMSNETS, 2024
- Unraveling Motorized Two-Wheeler Erratic Driving by Leveraging Computer Vision and Proactive Safety Assessment
  EAAI, 2024