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Ritesh Pandey

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Career Summary

Results-driven software developer with a strong foundation in data structures, algorithms, and software engineering principles. Proficient in Python and C++ with hands-on experience building real-world projects in machine learning, computer vision, and full-stack web development. Skilled in designing scalable systems, implementing efficient algorithms, and integrating AI models into production-ready applications. Seeking a challenging role in software development or data-driven engineering where I can contribute technical expertise and drive impactful solutions.

Experience/Internships

Opoyi PVT.LTD (Backend/Intern)

Backend Development Specialist with expertise in building scalable systems using **Django**, **REST APIs**, and **MySQL**. Proven experience improving backend infrastructure, including **CI/CD pipeline implementation** using Jenkins for automated deployments. Proficient across the full software development lifecycle in a fast-paced start-up environment.

Skills

Programming Language	Python, C++, SQL, JavaScript
Operating System	Windows, Linux
Tools/Platform/Framework	Git Bash, GitHub, Django, Reactjs, Nodejs, MongoDb, Rest-Api

Projects

- **Person Identity & Attribute Analysis System:** Developed a modular deep learning–based computer vision system for real-time face detection, recognition, age, gender, and emotion analysis. Implemented InsightFace (Arc Face embedding) for accurate face detection and face recognition. Built age and gender classification using MobileNetV3 and UTKFace-trained CNN models, and emotion recognition using a CNN-based FER model. Integrated OpenCV with CUDA-enabled GPU acceleration for real-time video frame processing and designed an interactive desktop interface using PyQt. Currently developing a Gun Detection module using YOLOv8 to enable real-time weapon identification for intelligent surveillance systems. [view]
- **E-Kisan-A Crop Prediction System:** Developed a smart agriculture web application that predicts the most suitable crop based on soil nutrients (N, P, K), pH level, rainfall, temperature, and humidity using a **Random Forest Classifier** (scikit-learn) trained on structured agricultural datasets. Performed data preprocessing, feature engineering, and model evaluation to optimize prediction accuracy, and deployed the trained model using Pickle serialization (. pkl) for backend integration. Built the backend with Django for API development and data handling, and designed an interactive frontend using React.js for real-time prediction visualization. The system supports data-driven, sustainable farming decisions to improve yield and resource efficiency. [view]
- **Route Optimization System:** Engineered a high-performance C++application to solve the single-source shortest path problem using **Dijkstra's algorithm**. Successfully processed 10,000 route and city data points, calculating multi-modal optimal routes with detailed distance and transport logistics. Demonstrated strong **algorithmic design** and C++ implementation skills.

Certification

- Introduction of Python-Certification of Excellence[view]
- Python for Beginners[view]
- Machine Learning with Python[view]

Education

Master of Computer Application (MCA)	2024- 2026
Chandigarh University (CU)	CGPA-7.62
B.E-Mechanical Engg.	(2015- 2019)
RGPV University	CGPA-7.96

Achievement

- Part of school football team which was winner in the zonal tournament.
- Volunteered in India's biggest national Go-Kart racing event held at our college.