Rajeev Ranjan Pratap Singh

Dehri, Bihar | rajeevranjanpratapsinghj94@gmail.com | 8863937221 | linkedin.com | github.com

Education

VIT Bhopal University, Bachelor of Technology in Computer Science and Engineering (AI&ML) — October 2022 – April 2026

- CGPA: 8.53/10

Projects

Diabetic Retinopathy Detection — January 2025 – April 2025

Python, DenseNet-121, CNN, OpenCV, Pandas

- Developed an end-to-end deep learning diagnostic pipeline using **DenseNet-121 with CBAM**, achieving **80% classification accuracy** for 5 DR stages on the APTOS 2019 dataset.
- Processed and augmented **3,662+ retinal fundus images** with contrast normalization, resizing, and data augmentation.
- Automated workflows for training, validation, hyperparameter tuning, and inference for scalable AI deployment in healthcare.

Brain Tumor Detection Using AI — October 2024 – December 2024

Python, ResNet50, DenseNet121, OpenCV, Streamlit

- Built a high-accuracy MRI brain tumor classification system using **ResNet50 and DenseNet121** with custom CNN layers, achieving **99.69% accuracy**.
- Reduced overfitting by **18%** through data augmentation, preprocessing with OpenCV/NumPy, and hyperparameter optimization.
- Deployed a **Streamlit web interface** enabling clinicians to upload MRI scans and receive automated diagnostic reports.

Emotion Detection System — August 2023 – November 2023

Python, OpenCV, TensorFlow/Keras, NumPy

- Engineered a real-time facial emotion recognition system using **TensorFlow/Keras and OpenCV**, achieving **80% accuracy** across 7 emotion categories.
- Processed and augmented **10,000+ facial images**, reducing inference latency by **25%** in live video streams.
- Applied advanced computer vision preprocessing including face detection, normalization, and augmentation for robust performance.

Achievements

- Secured 2nd place in Robotics and Coding Workshop, VIT Bhopal.
- **Zelestra X AWS ML Ascend Challenge – 2nd Edition:** Ranked among the **Top 50** nationally, demonstrating expertise in machine learning model development and applied AI.

Technical Skills

- **Programming:** Python, Java, JavaScript (beginner), REST APIs, React.js, HTML, CSS, Node.js, MySQL.
- **Machine Learning & Deep Learning:** TensorFlow, Keras, Scikit-learn, NumPy, Pandas, OpenCV, CNNs, ResNet, DenseNet, CBAM.
- **Version Control & Tools:** Git, GitHub, Jupyter Notebook, VS Code, PyCharm.
- **Cloud Platforms:** Google Cloud Platform (GCP), AWS (basic knowledge).

Certifications

- **Google Analytics Certification** – Google, (Scored 86%; Web Analytics, Data Tracking, Reporting) 2025-2026
- **Google Ads AI-Powered Performance** – Google, (Scored 91.3%; Performance Optimization) 2025-2026
- **Blockchain Developer** – IBM Cognitive Class,(Blockchain Development) 2025
- **Generative AI using IBM Watsonx** – IBM Cognitive Class, (Generative AI, Machine Learning) 2025
- **Applied Machine Learning in Python** – Coursera, (Machine Learning, Python, Data Analysis) 2023