RISHITA PRIYADARSHINI SARAF

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EDUCATION

Vellore Institute of Technology, Bhopal   2022- 2026
BTech In Computer Science and engineering   CGPA: 8.76   (expected)

TECHNICAL SKILLS

- **Programming Languages:** Python, C++
- **Databases:** MySQL
- **Technical Skills:** Data Analysis, Microsoft Excel, Power BI, SQL, Machine Learning Algorithms, Deep Learning, NLP, Image Processing, Generative AI
- **Tools & Frameworks:** Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn, TensorFlow, Keras, OpenCV

UNIVERSITY PROJECTS

MRI Brain Tumor Detection using Deep Learning   June, 2025
- Built a CNN in PyTorch achieving 96% validation accuracy on 3K+ MRI scans, reducing false negatives by >90% compared to baseline.
- Designed a custom PyTorch Dataset class for efficient preprocessing and train–validation splits.
- Optimized training with Adam + BCE loss, reducing loss from $0.72 \rightarrow 0.0077$, validated via confusion matrix & feature map analysis.
- Tech Stack: Python, PyTorch, NumPy, OpenCV, scikit-learn, Matplotlib

Driver Drowsiness Detection using YOLOv5   August, 2025
- Developed and deployed real-time object detection models using YOLOv5 and PyTorch for driver drowsiness and vehicle monitoring, achieving high accuracy in live video streams.
- Built an end-to-end computer vision pipeline covering dataset creation, annotation (LabelImg), preprocessing, model training, evaluation, and deployment.
- Enhanced detection accuracy via transfer learning, augmentation, and fine-tuning for robust real-world performance.
- Tech Stack: Python, PyTorch, YOLOv5, OpenCV, LabelImg, NumPy, Matplotlib, Git

SoEfficient: ML-Based Solar Panel Performance Forecasting
- Built an XGBoost regression model on 20K+ sensor records to predict solar panel efficiency, enabling predictive maintenance and reduced downtime.
- Engineered features such as power output, soiling impact, and efficiency per year, improving model performance and interpretability.
- Optimized pipeline with GridSearchCV hyperparameter tuning, achieving Top 100 leaderboard rank (#78, Score: 89.89).
- Tech Stack: Python, XGBoost, Scikit-learn, Pandas, NumPy, Seaborn, Matplotlib

WORK EXPERIENCE

Data Analyst Intern - NullClass (Remote)   Jan 2025 – Feb 2025
- Analyzed Google Play Store app reviews and created an interactive HTML dashboard using Plotly.
- Performed data preprocessing and extracted sentiment trends to guide app improvements.
- Tech Stack: Python, Pandas, Plotly, Matplotlib, Seaborn, Jupyter Notebook

Data Science Intern - Cognifyz Technologies (Remote)   Dec 2024 – Jan 2025
- Developed a linear regression model to predict restaurant ratings using customer data
- Conducted data cleaning, feature selection, and visualized insights using Seaborn and Matplotlib.
- Technologies: Python, Pandas, Matplotlib, Seaborn, Scikit-learn

ADDITIONAL INFORMATION

- Oracle Data Science Professional Certificate
- IBM GEN AI Using IBM Watsonx certificate
- **Achievements:** Ranked 78th in the Zelestra Hackathon on HackerEarth for building a solar panel efficiency prediction model using XGBoost, achieving 89.88% accuracy.