



**Darshan**  
**Employee Code- INF-1289**

## **Professional Summary**

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Data Science enthusiast and Engineer with over 1 year of experience in machine learning, computer vision, and predictive analytics, with a strong focus on Python-based development and AI-driven solutions. Skilled in designing and optimizing algorithms for autonomous systems and integrating AI models into production workflows. Proficient in prompt engineering, API development, and structured data processing, with hands-on experience using Large Language Model APIs (Hugging Face, OpenAI). Passionate about creating scalable, high-performance solutions to address complex real-world challenges.

## **Technical Skills**

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**Languages & Technologies:** Python, SQL, Pandas, NumPy, TensorFlow, Scikit-learn, Matplotlib, Seaborn, Folium

**AI & ML:** Prompt Engineering (few-shot, chain-of-thought, structured outputs), Large Language Models (Hugging Face, OpenAI), Machine Learning, Computer Vision, Statistical Analysis, Data Visualization

## **Experience**

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### **Infinity Soft Systems**

**May 2023 - Present**

**Machine Learning Intern | Python, SMOTE, Keras, TensorFlow**

### **Roles & Responsibilities-**

- Designed dynamic prediction windows, enabling early intervention and enhancing student success prediction.
- Engineered 7 features, refined to 5, and optimized performance with SMOTE, scaling, and correlation adjustments.
- DNN performed best (Accuracy 76%, F1-score 0.74) over Logistic Regression, KNN, DT, Random Forest, XGBoost.

## **Projects**

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### Computer Vision for Autonomous EV | Python, OpenCV, TensorFlow

Jul 2023 - Jan 2024

- Developed and fine-tuned YOLOv5 models for real-time detection, optimizing vehicular perception and navigation.
- Engineered data pipelines using TensorFlow for efficient preprocessing and augmentation of large datasets.
- Developed DeepLabV3+ with Xception backbone, achieving 95.7% accuracy & 85.3% IOU score for path planning.
- Integrated deep learning models with ROS for low-latency inference in autonomous cars. (Github)

### SpaceX's Falcon 9 Stage 1 Landing Success Prediction - IBM DS Capstone | Python

Mar 2023 - Sep 2023

- Achieved 90% accuracy in predicting SpaceX Falcon 9's first-stage landing, leading to potential cost savings of \$103M.
- Extracted data from SpaceX API, conducted EDA with visualizations and Feature Engineering like Category Encoding.
- Implemented and compared classification algorithms, such as Logistic Regression, SVM, Decision Trees and kNN.
- Optimized model performance with GridSearchCV, enhancing prediction accuracy and robustness. (Github)

### Image Denoising | OpenCV, Image Processing

Jan 2023 - Mar 2023

- Designed an adaptive algorithm to detect and recover image distortions caused by impulse noise, ensuring results.
- Achieved superior results compared to traditional denoising techniques, validated using MSE, PSNR and SSIM metrics.
- Built an interactive data visualization pipeline in Python to analyze and compare image restoration outputs effectively.

## Education

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B.tech from Indian Institute of Technology (BHU) Varanasi



## Leadership / Extracurricular

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### Team AVERERA

July 2023 – July 2024

**Project Manager SHIVAAY - Development of Energy efficient Battery Electric vehicle IIT (BHU)**

- Managed and supervised the technical development, administration, and finances of a team of 18 active members.
- Secured sponsorship & mentorship from RIGOL Technologies & E-con Systems to facilitate industrial collaboration.
- Designed and assembled an in-house BLDC motor controller with 95% efficiency.

### Honours & Achievements

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- Secured 1st Place in Technical Innovation & Carbon Footprint Reduction at Shell Eco-Marathon 2025, Qatar.
- Secured 6th Position in On-track Award with 83.6 km/kWHR in battery electric category SEM ASIA 2025, Qatar.
- Secured 1st Position in Carbon Footprint Reduction Award at Shell Eco-Marathon 2023, organized in Indonesia.
- Secured 6th Position globally in the Shell Eco-Marathon Autonomous Programming Competition 2023.
- Achieved SAE level 3 autonomy on Team AVERERA's test vehicle using a 3D-LiDAR and Pure Pursuit.