VIBHANSHU WAGHMARE

AI & Data Science Engineer

+91 9421365332 | vibhanshuw789@gmail.com | Linkedin Profile| Github Profile | Website

Profile Summary

AI & Data Science Engineer with hands-on experience in computer vision, LiDAR data acquisition, AIoT systems and machine learning model deployment. Skilled in Python, TensorFlow, PyTorch, ROS and cloud-based data processing, with a strong background in atmospheric data visualization, autonomous robotics and statistical modeling. Proven track record of delivering innovative AI solutions, winning hackathons and collaborating with research institutions like ARIES and ISRO.

Skills

Programming: Python, SQL, LangGraph, Machine Learning, Computer Vision.
Machine Learning: scikit-learn, TensorFlow, Keras, PyTorch, YOLO, NLP, Deep Learning.
Data Analysis & Visualization: Pandas, NumPy, Matplotlib, Seaborn, Tableau, Power BI
Robotics & IoT: ROS, Edge Computing, LiDAR integration, GPU.
AI Tools: FastAPI, LLMs, n8n , Jupyter Notebook, ChatGPT, Hugging Face, Linux.
Cloud & Deployment: AWS, Flask API deployment.
Analytical Tools: MATLAB, Tableau, Power BI.

Professional Experience

ISRO NRSC - AI & Data Science Intern (Jul 2024 - Dec 2024)

- Developed AIoT autonomous rover for space and agriculture applications.
- Implemented LiDAR mapping and navigation using ROS.
- Designed AI models for image processing and autonomous decision-making.

Tools & Methods: Python, ROS, OpenCV, YOLO, TensorFlow, PyTorch, LiDAR, Edge Computing, AWS.

Brainovision Solutions Pvt. Ltd - Data Science Intern (Jan 2024 - Mar 2024)

- Built ML models for customer segmentation using K-Means clustering.
- Deployed Linear Regression and Random Forest Regression; evaluated using MSE, R^2, MAE.
- Data cleaning, preprocessing and visualization using Pandas, NumPy, Seaborn.
- Created interactive dashboards for insights.

Tools & Methods: Python, scikit-learn, Pandas, NumPy, Matplotlib, Seaborn, Flask.

Aryabhatta Research Institute of Observational Sciences - Research Fellowship Intern
(May 2023 - Aug 2023)

- Designed structure for daytime operation of ARIES Micro Pulse LiDAR (AMPL).
- Developed real-time data acquisition and visualization algorithms.
- Integrated cloud-based LiDAR data processing pipelines.

Tools & Methods: Python, MATLAB, ROS, FastAPI, NumPy, Matplotlib.

Projects

LangGraph Customer Support Agent

Domain: AI Agent

Tech Stack: Python, scikit-learn, Pandas, Matplotlib, LangGraph

- 11-Stage Workflow: Complete customer support pipeline from intake to completion.
- MCP Server Integration: Routes abilities between COMMON and ATLAS servers.
- Multiple Execution Modes: Deterministic, non-deterministic, and human interaction stages.
- State Management: Persistent state across all workflow stages.
- Escalation Logic: Automatic escalation based on solution confidence scores.
- Comprehensive Logging: Detailed execution tracking and monitoring. GitHub: GitHub Project

Concept of Daytime Operation of ARIES Micro Pulse LiDAR (AMPL) (ARIES)
Domain: Atmospheric Science
Tech Stack: Python, MATLAB, ROS, FastAPI

- Designed hardware modifications for daytime LiDAR operations.
- Built real-time data acquisition & visualization algorithms. GitHub: GitHub Project

AI Autonomous Rover for Space and Agriculture Application (ISRO NRSC) Domain:
Domain: AIoT, Robotics, Computer Vision
Tech Stack: ROS, LiDAR, YOLO, OpenCV, TensorFlow, PyTorch

- Designed an autonomous rover with LiDAR mapping.
- Integrated NLP for voice-command navigation.

Research Paper: Research Paper

Education

B.E. in Artificial Intelligence & Data Science - Sandip Institute of Technology and Research Centre – CGPA: 8.61
HSC (12th) - School of Brilliant & Junior College - 97.5% SSC
SSC (10th) - Alphonsa High School - 92%

Awards

Data Science Hackathon - 1st Winner - Brainovision Solutions Pvt. Ltd