



# Details of the Team and Problem Statement

**Ministry :** Ministry of Ports, Shipping & Waterways

**PS Code:** SIH1506

**Problem Statement Title:**

Leveraging the power of deep learning to overcome the challenges of marine engineering and improve vessel operations

**Team Name:** DeepSea Protect

**Team Leader Name:** Sagar Panwar

**Institute Code (AISHE):** C-46112

**Institute Name:** ABES ENGINEERING COLLEGE , GHAZIABAD

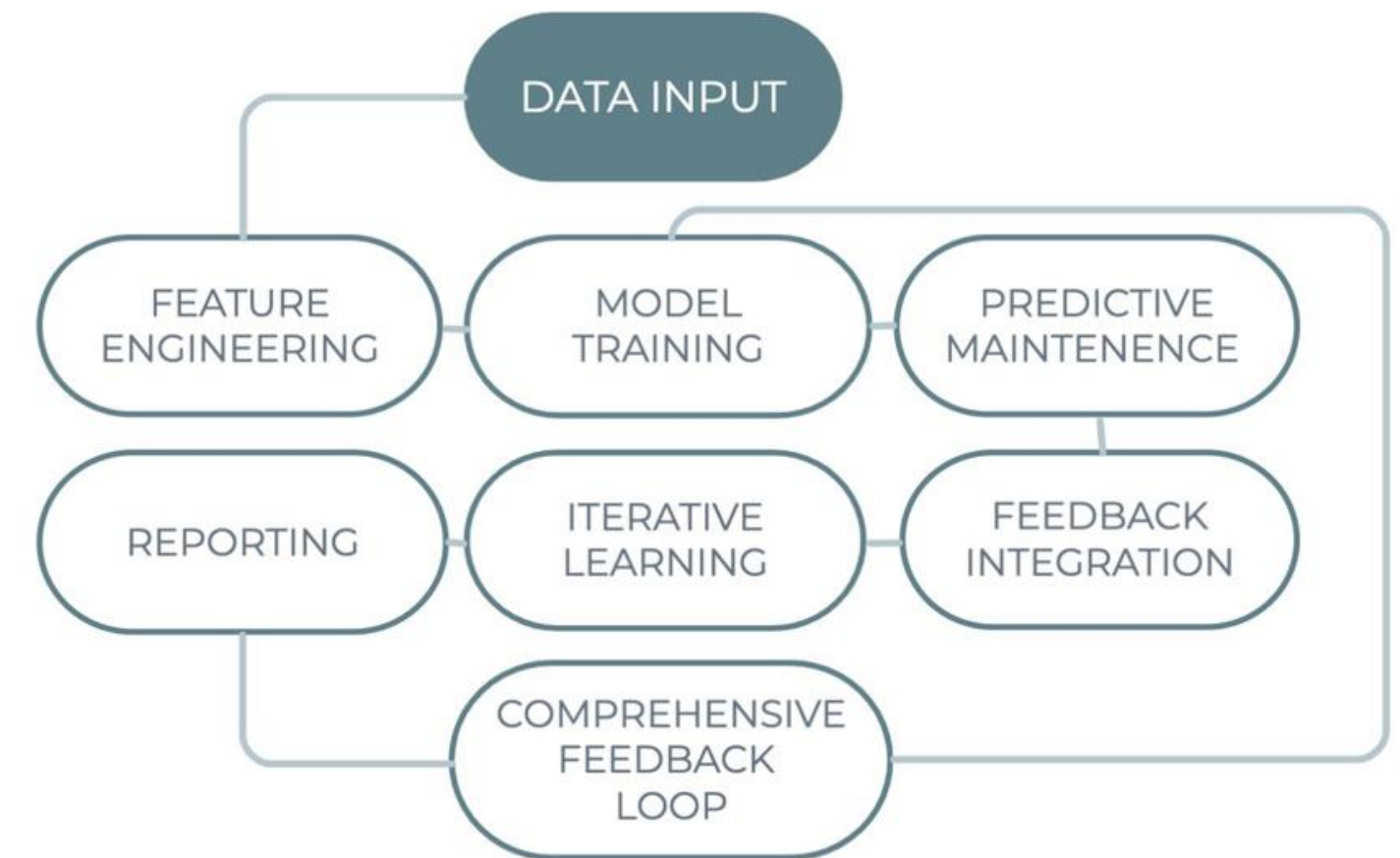
**Theme Name:** Smart Automation

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# Idea/Approach Details

## Solution :

- In the depths of the ocean, where the unseen dangers of submerged **rocks and mines pose significant threats** to vessels and marine infrastructure.
- To **optimize fuel consumption** based on various factors, including vessel speed, route, weather conditions, and cargo load & also **contributes to environmental sustainability**.
- The system establishes an **iterative learning loop**, improving recommendations over time.
- **Actionable insights** for predictive maintenance, fuel efficiency optimization, and route planning,



## Technology Stack

- Machine Learning
- Data Analytics
- Data Collection and Integration
- Geospatial Data Tools

# Idea/Approach Details

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## Dependencies

- Data Availability
- Communication Infrastructure
- Budget and Cost Management
- Integration with Vessel Systems
- Cybersecurity Measures
- Budget and Resource Allocation
- Stakeholder Collaboration

## Show stoppers:

- Data Quality and Availability
- Data Integration
- Model Complexity
- Real-time Processing
- Cost and Resource Allocation

## Use Cases :

- Fuel Efficiency Improvement
- Safe Navigation
- Vessel Optimization
- Cost Savings and Profitability
- Accident Prevention

# Team Member Details

**Team Leader Name: Sagar Panwar**

Branch (Btech)

**Team Member 1 Name: Daksh Chaudhary**

Branch (Btech)

**Team Member 2 Name: Anjali Devi**

Branch (Btech)

**Team Member 3 Name: Vedika Choudhary**

Branch (Btech)

**Team Member 4 Name: Shiv Poojan Pal**

Branch (Btech)

**Team Member 5 Name: Sumit Singh Chauhan**

Branch (Btech)

**Team Mentor 1 Name: Ms.Kanika Malik**

Category (Academic)

Stream ( CSE-AI ML)

Year (III)

Stream ( CSE-AI ML)

Year (III)

Stream ( CSE-AI ML)

Year(III)

Stream ( CSE )

Year(III)

Stream ( CSE-AI ML)

Year(III)

Stream (CSE-AI ML)

Year (III)

Expertise (AI/ML)