



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

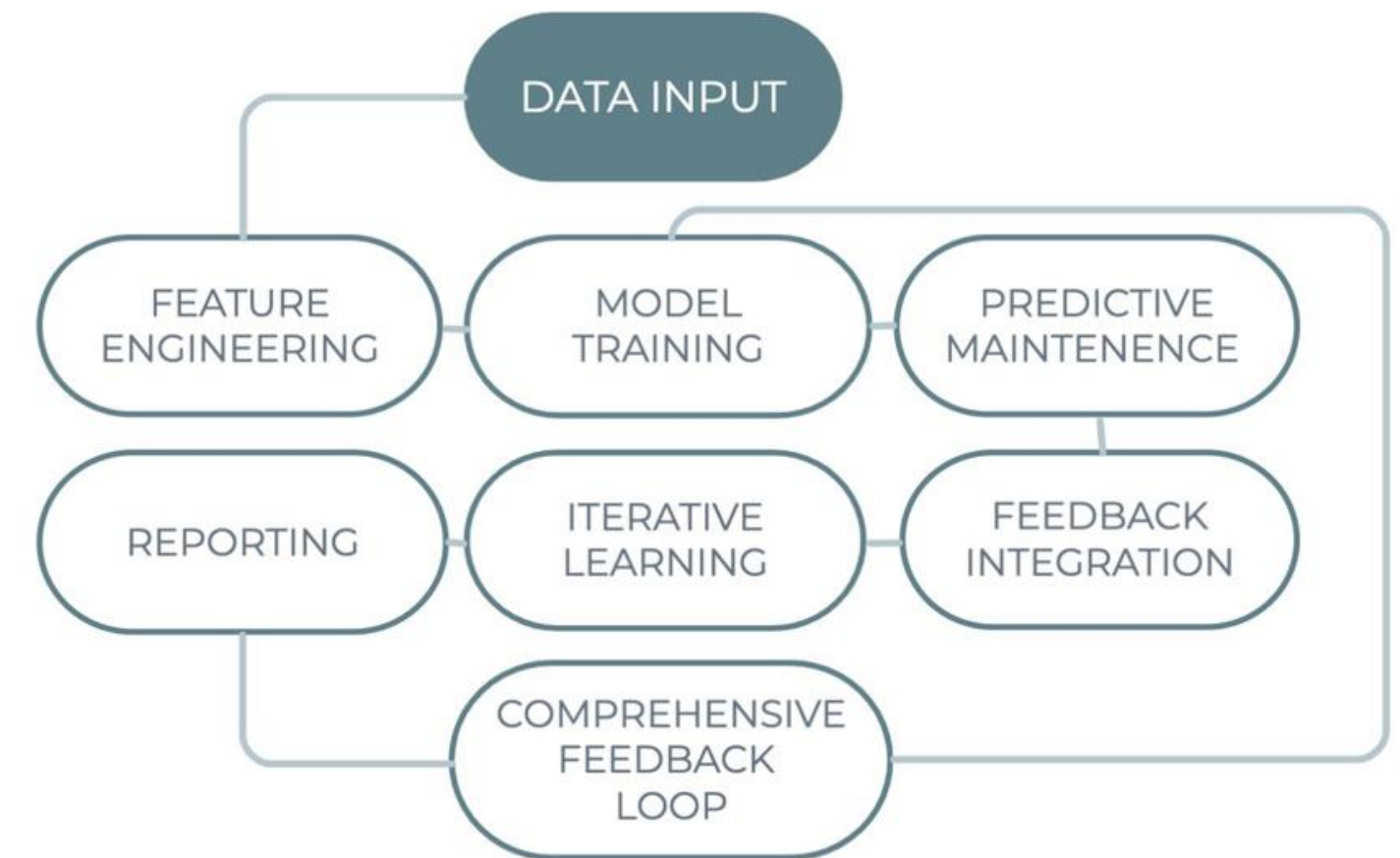
Institute Name: ABES ENGINEERING COLLEGE , GHAZIABAD

Theme Name: Smart Automation

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

Dependencies

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

Use Cases :

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

Show stoppers:

- **Insufficient amount of data** can hinder model training and prediction accuracy.
- Incompatibility or **difficulties in integration** can disrupt the system's functionality.
- **lack of training of Crew** may hinder the system's adoption and success.
- **Environmental challenges** like extreme weather events can disrupt operations and decision-making.

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.Shweta Singh

Category (Academic)

Stream (CSE-AIML)

Year (III)

Stream (CSE-AIML)

Year (III)

Stream (CSE-AIML)

Year(III)

Stream (CSE)

Year(III)

Stream (CSE-AIML)

Year(III)

Stream (CSE-AIML)

Year (III)

Expertise (AI/ML)