AI Driven Underwater Vehicle for Marine Ecosystem

Breif Background

Underwater vehicle prototypes are vital for marine research as they enable access to difficult-to-reach ocean environments and collect high-value data on habitats, species, and ecosystem health. These platforms allow long-term monitoring without disturbing marine life, helping assess biodiversity and human impact. However, underwater control, sensing, and data processing are extremely challenging due to dynamic water conditions and complex signal behavior, creating a strong need for adaptive underwater vehicles capable of intelligent detection and classification of marine flora and fauna

Application Sectors

- Marine research,
- Oceanography,
- Aquaculture

TRL 2

Tech/Prod. Summary

Is a underwater vehicle featuring six thrusters based vehicle with practical adaptability in controlled environments like indoor water tanks or swimming pools, and also in the outdoor environment up to the 20m depth.

Tech/ Product Description

AI-based underwater vehicle prototype capable of detecting, studying, and classifying marine flora and fauna in real ocean conditions. The system integrates deep learning algorithms for underwater image/video classification, along with intelligent control strategies for both remotely-operated and autonomous navigation. The prototype is adaptive for both controlled lab tanks and outdoor water environments.

Market Potential

AUVs+ROVs Market: USD ~6.5 – 7 Billion → USD ~14 – 18 Billion

Impact - SDG:

SDG 14 – Life Below Water (Primary),
SDG 13 – Climate Action (Supporting)

Value Proposition

1. AI Driven Natural habitat monitoring in underwtaer scenarios.
2. AI driven Vehilce controlling