OIL SPILL DETECTION IN OCEAN

DOMAIN : DATA SCIENCE

20CS713 - PROJECT PHASE-1 - C3

TEAM DETAILS

TEAM MEMBERS:

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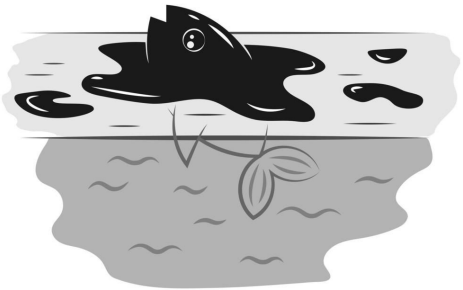
PROBLEM STATEMENT

Oil spills have the potential to cause severe environmental damage in marine ecosystems. When oil accidently leaks into the ocean, serious issues might result. An oil leak can ruin a day at the beach, injure marine life, and make seafood dangerous to consume. To remove the oil, assess the effects of pollution, and aid in the ocean's recovery, strong science is required.Monitoring and detecting these spills are crucial for effective response and mitigation.

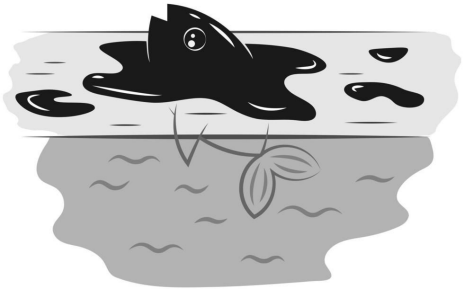


ABSTRACT

The primary objective of the oil spill detection project is to identify oil spills within maritime ecosystems.The maritime ecology has been seriously harmed by oil spills. One of the key tools for monitoring the marine environment is remote sensing technology. A very effective detection of oil spill can be performed by using satellite synthetic aperture radar (SAR) technology.For the purpose of finding maritime pollution, synthetic aperture radar (SAR) has grown in importance.SAR functions by transmitting microwave signals to Earth and receiving reflected signals, generating high-resolution images for a variety of applications, such as environmental monitoring and disaster management.

TECHNOLOGY STACK

- Programming language: Python
- Machine learning library: scikit-learn
- Algorithm : Random Forest Classifier
- WEB DEVELOPMENT : HTML CSS JS
- IDE: PyCharm

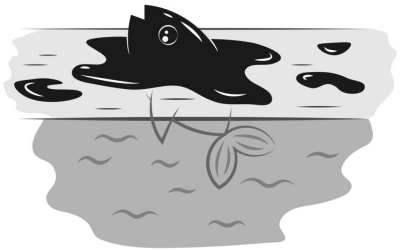


REFERENCE

1. Oil Spill Contextual and Boundary-Supervised Detection Network Based on Marine SAR Images - Qiqi Zhu, Yanan Zhang, Ziqi Li.

2. Multitask GANs for Oil Spill Classification and Semantic Segmentation Based on SAR Images - Jianchao Fan, Chuan Liu.

3. Oil Spill SAR Image Segmentation via Probability Distribution Modeling - Fnag Chen, Aihua Zhang.



THANK YOU