Arctic Ice Prediction Report

This project focuses on forecasting Arctic Sea Ice Extent using time series analysis.

We used NASA/NSIDC daily sea ice data from 2010 to 2024.

Key steps:

- Data Cleaning and Visualization

- Seasonal Decomposition

- ARIMA Model: Stationarity tests, AIC-based order selection, Forecasting with confidence bands

- SVM Model: Regression using sliding window approach

The final model predicted Arctic Ice Extent for 2025 with clear downward seasonal trends,

highlighting ongoing climate change patterns.