Wave Impacts on Offshore Power Generation

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INTRO

This study aims to better understand the impact of waves and weather on a turbine’s output

METHODOLOGY

1. Obtain a weather dataset over the past 10 years offshore of the US (Weather, Wave Height, Temperatures, etc.)
2. Extract data from locations leased/proposed offshore wind sites
3. From the raw data observe base correlations
4. Input the data into a neural network to see if the output can be predicted based upon the other inputs
5. Design a sensor subsystem to obtain more data to input into the neural network

RESULTS

Results are inconclusive due to multiple factors

DISCUSSION

- Adjust the Neural Network Model further to create a more accurate model
- Apply weights to different inputs of the neural network
- Create/Test a preliminary designed miniature sensor suite to measure data
- Design a subsystem on a larger scale

AUTHOR AFFILIATIONS: Rowan University

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Preliminary Key Findings 1

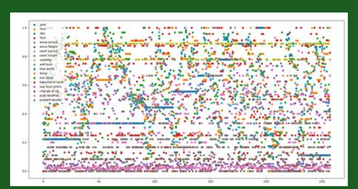
Large variation of preliminary statistics from location to location

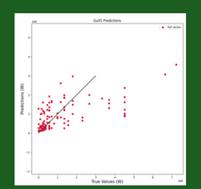
Preliminary Key Findings 2

There was a lack of variation within inputs

Preliminary Key Findings 3

The model was inconclusive due to the lack of data available





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