**Project Topic:** Cyclone in Australia

**Dataset: https:** [Cyclones In Australia](http://www.bom.gov.au/cyclone/tropical-cyclone-knowledge-centre/databases/)

**Data:**

Cyclones in Australia since 1990 which includes land and ocean.

**Team Members:** Ezra Tassone, Stephen Milton

**Target/Label for ML:**

Predict Wind direction based on the historical data

**Variables/Features for your model:**Mainly using the numeric values to predict the wind directions.

**Algorithm/Model type:**

Three Models to try:

SVM

Random Forest

Deep Learning

Deploy the best performing model.

**Specific Requirements:**

1. Your visualization must include a Python Flask–powered API, HTML/CSS, JavaScript.

2. A combination of web scraping and Leaflet.

3. Your project must be powered by a data set with at least 100 records.

4. Your project must include some level of user-driven interaction (e.g., menus, dropdowns,

textboxes).

**Questions to be answered:**

1. Number of cyclones and the frequency?

2. Are cyclones seasonal?

3. Is there a correlation with Central pressure and cyclone duration etc?

4. Can we predict the wind direction of upcoming cyclones with machine learning?

**Web layout:**

Home Page, Plots / Visuals, Maps, API, ML, About Us

**Tools for Project:**

ETL: Python, Pandas

API: Flask

Visualisation: JavaScript (D3, Plotly, Leaflet) HTML/CSS: Bootstrap

Machine Learning: Scikit-learn/Deep Learning

**Flowchart:**

Diagram

Description automatically generated

**Web Layout:**

**Diagram

Description automatically generated**