

Wing Watch

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What is Planespotters

Planespotting is a hobby that involves observing and recording aircrafts. To enhance this experience, Wing Watch is an app that helps you find optimal planespotting locations that match your preferences

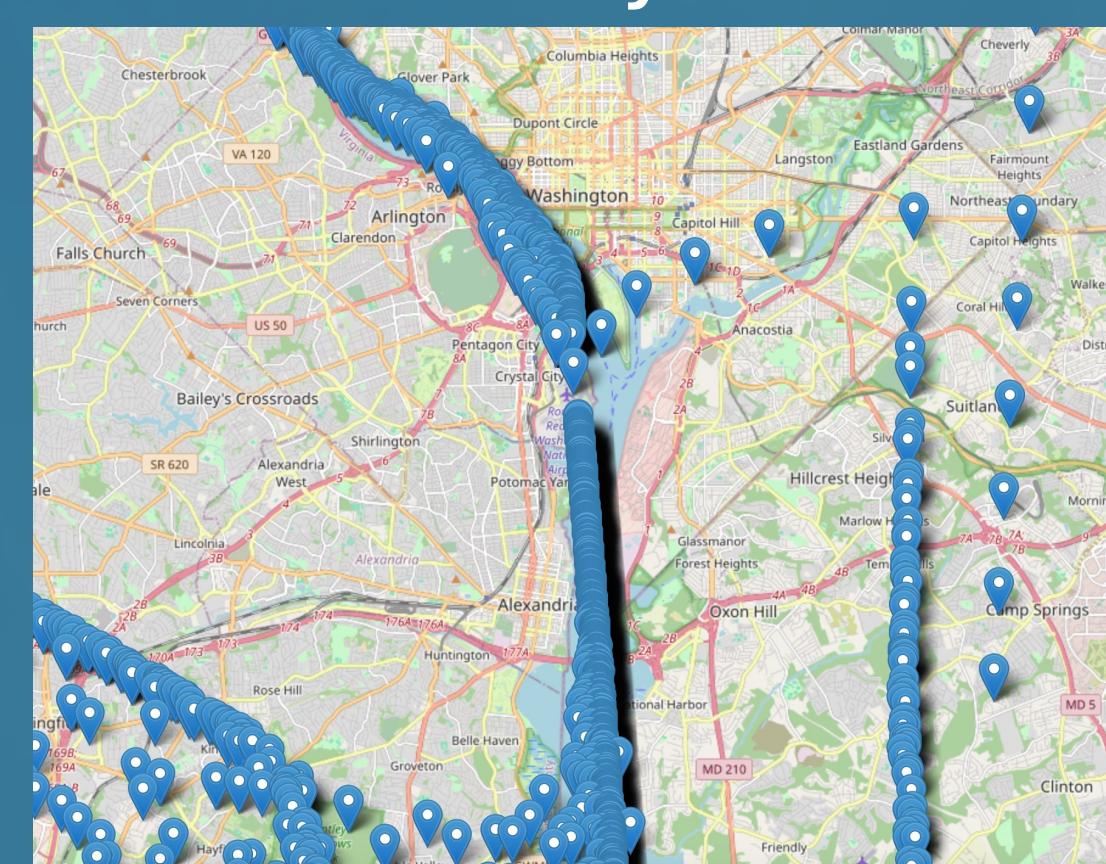


Requirements

Being in the vicinity of an aircraft's trajectory doesn't always make for an ideal plane-spotting spot. It's essential to have a clear view of the sky, free from obstructions. Aircrafts need not be right overhead but should be at a moderate distance. To find a place like this we should first find the aggregate path aircrafts take and search along this line for places that match these requirements.

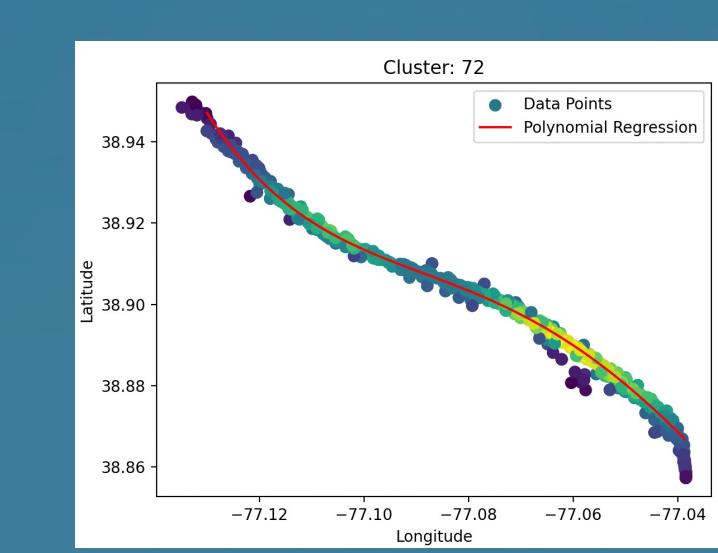
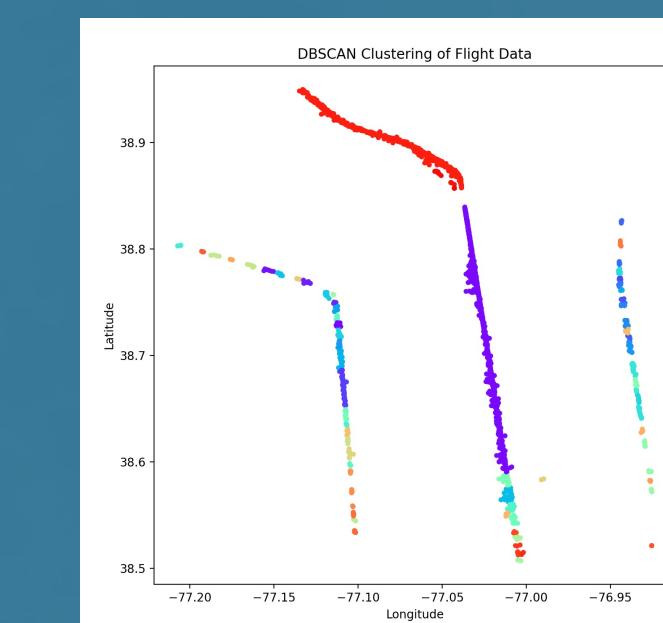
Data Collection

Using an API we can capture flight data under a certain altitude in a 30 square mile box around any given airport. And the majority of the collected data falls into clusters in the shape of long lines. If we can isolate these long clusters, we can use regression to plot the lines.



Clustering Data

To cluster this data, we use the clustering algorithm DBSCAN, a density-based algorithm that groups points packed closely together. The points are further isolated by filtering out the bottom 20% points when ranked by density. Polynomial regression is used on the remaining points to plot a flightpath.



Finding Spots

The google maps places API can be used to find places geographically near a coordinate pair. Searching along the line in intervals of 0.6 miles, we can use a search radius of 0.3 miles to find parks. These places will be assigned attributes such as average altitude and distance from flightpath based on the collected data. Users will be able to search through these places using these attributes to tailor their specifications.

