Predicting Peak Chair Status at WhistlerBlackcomb
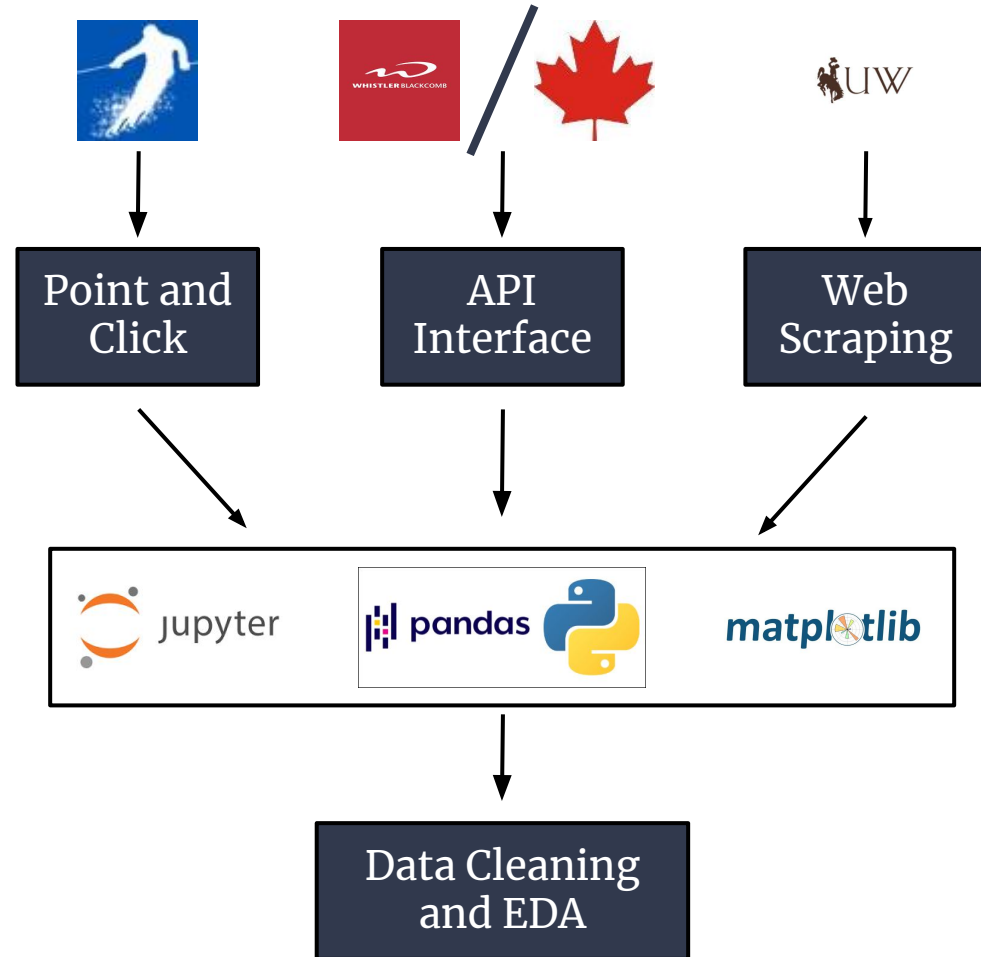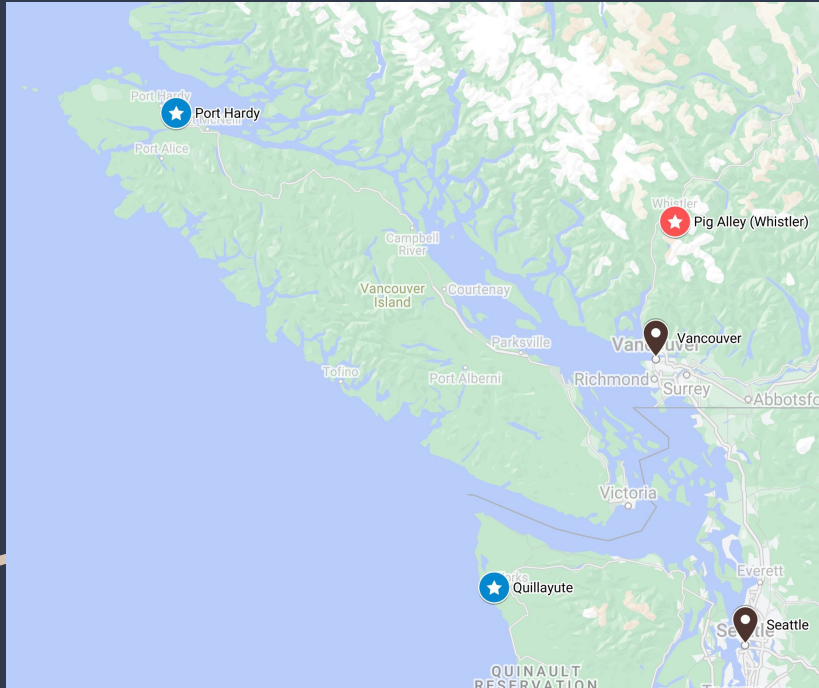
Introduction
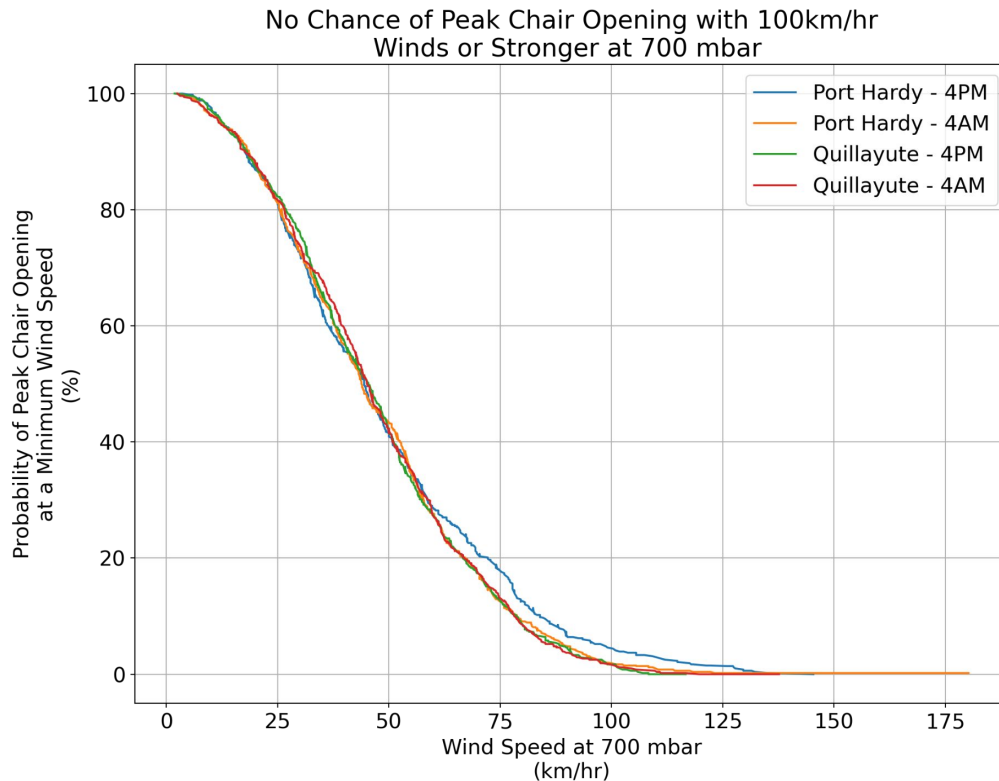
Data Acquisition

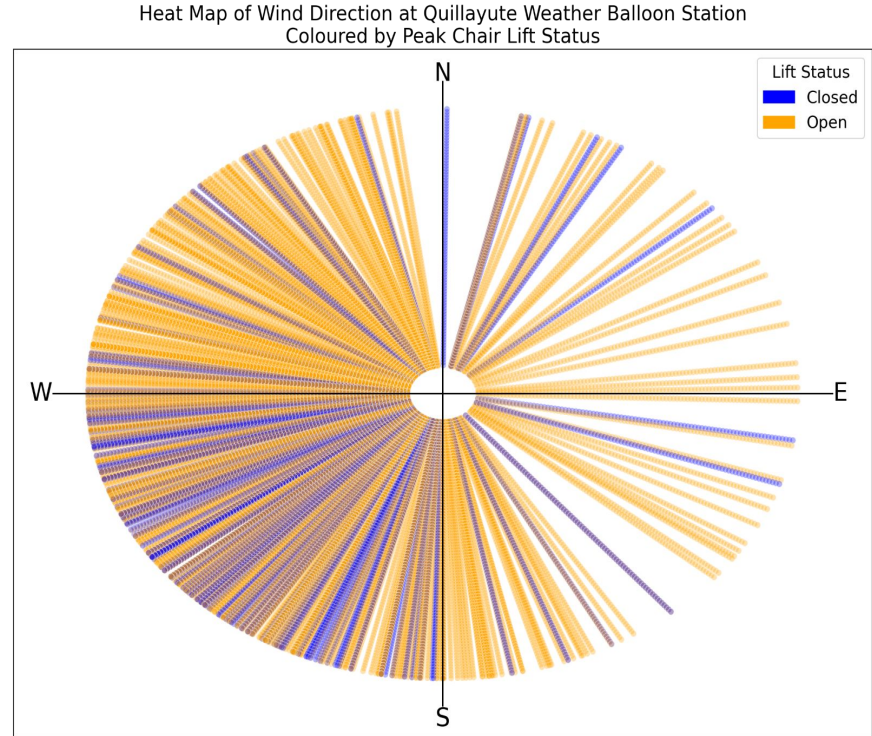## Weather Station Locations

EDA – Wind Speed

Winds linearly decrease opening probability between 25 and 60 km/hr

EDA – Wind Direction

Winds from the south west dominate closures

Heat Map of Wind Direction at Quillayute Weather Balloon Station
Coloured by Peak Chair Lift Status

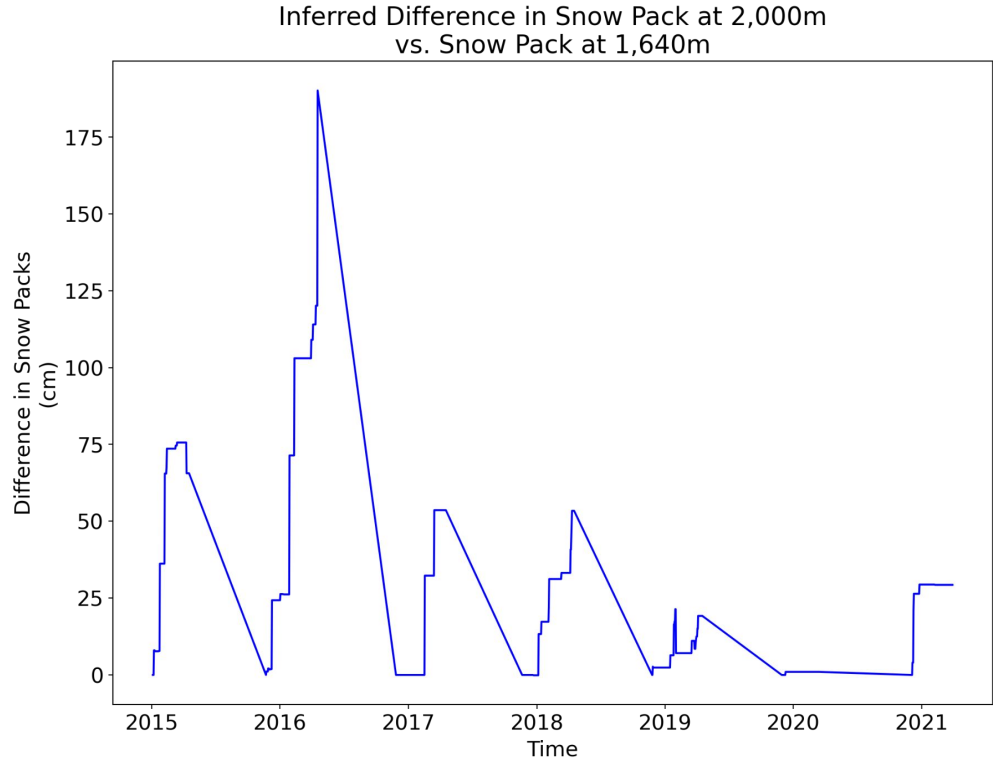# EDA – Snowpack Depth

Variance in snowpack depth almost 1.3m across first Peak chair opening each season.

Large Variance for Snow Pack Depth in Days
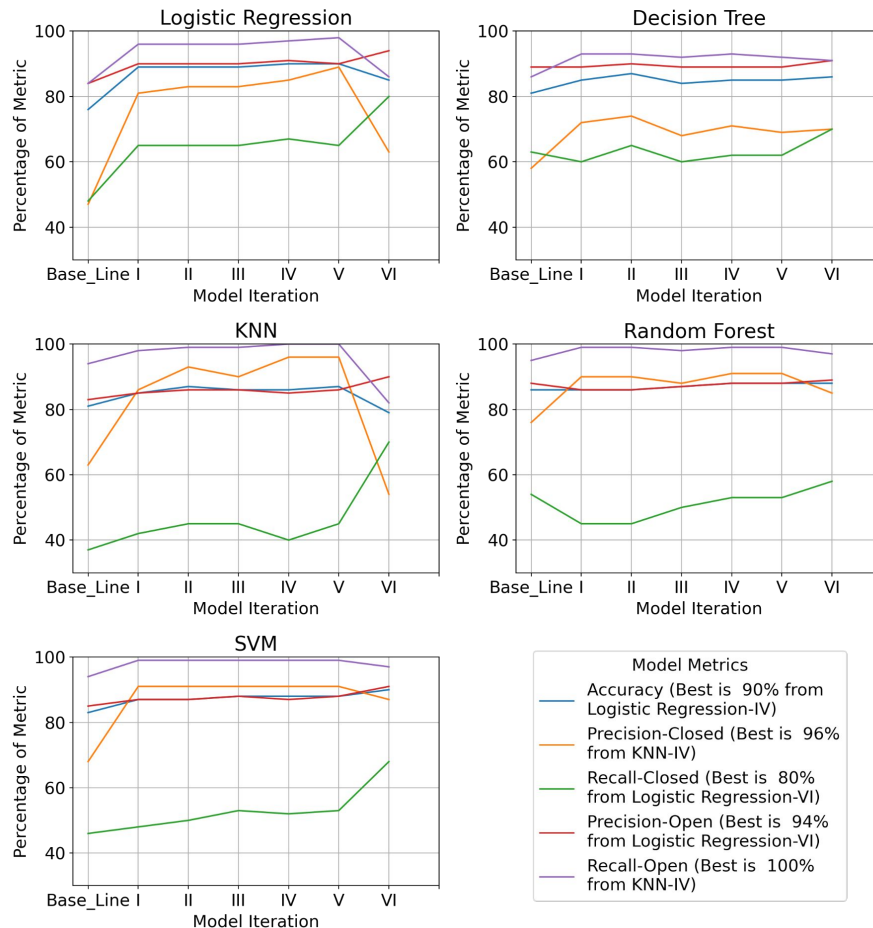Leading up to First Peak Chair Opening
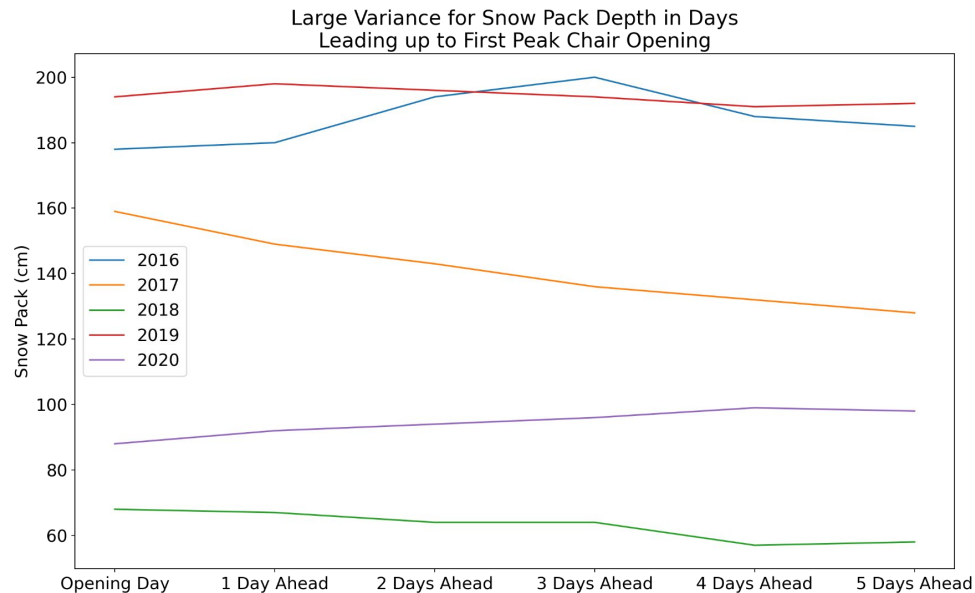
Feature Engineering – Snowpack Depth

No difference achieved in snowpack by Peak chair opening day

Inferred Difference in Snow Pack at 2,000m
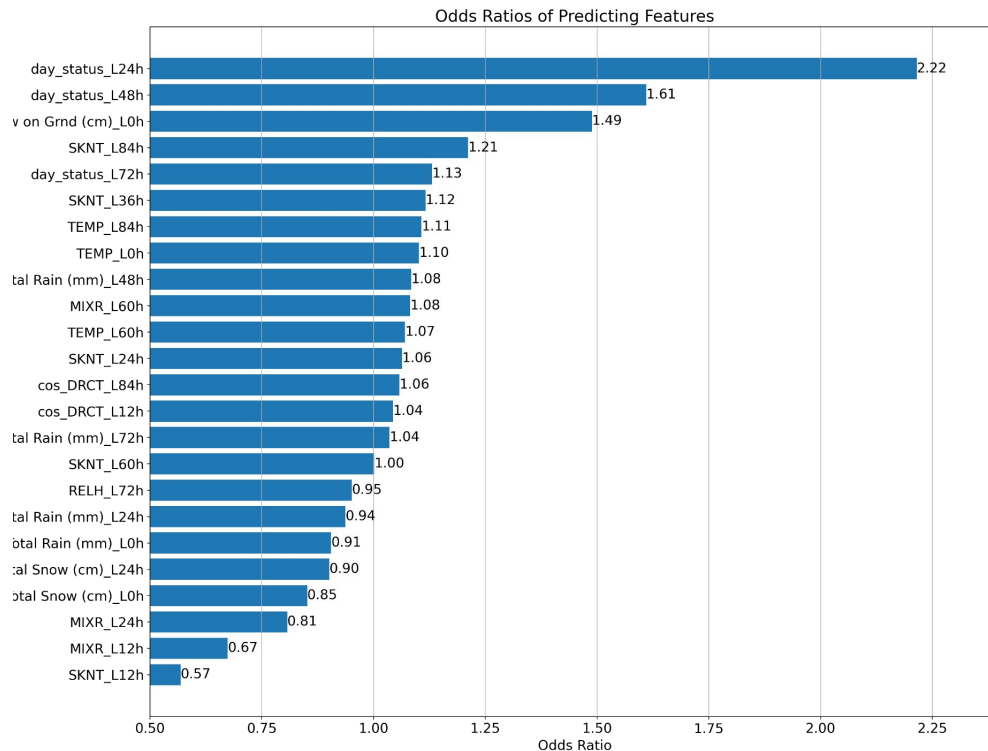vs. Snow Pack at 1,640m

Modelling

Tracking model performance for selecting base models to stack on

Model Performance Metrics Over Feature Engineering and Removal

Model Evaluation Odds Ratios

Open yesterday? Probably open today
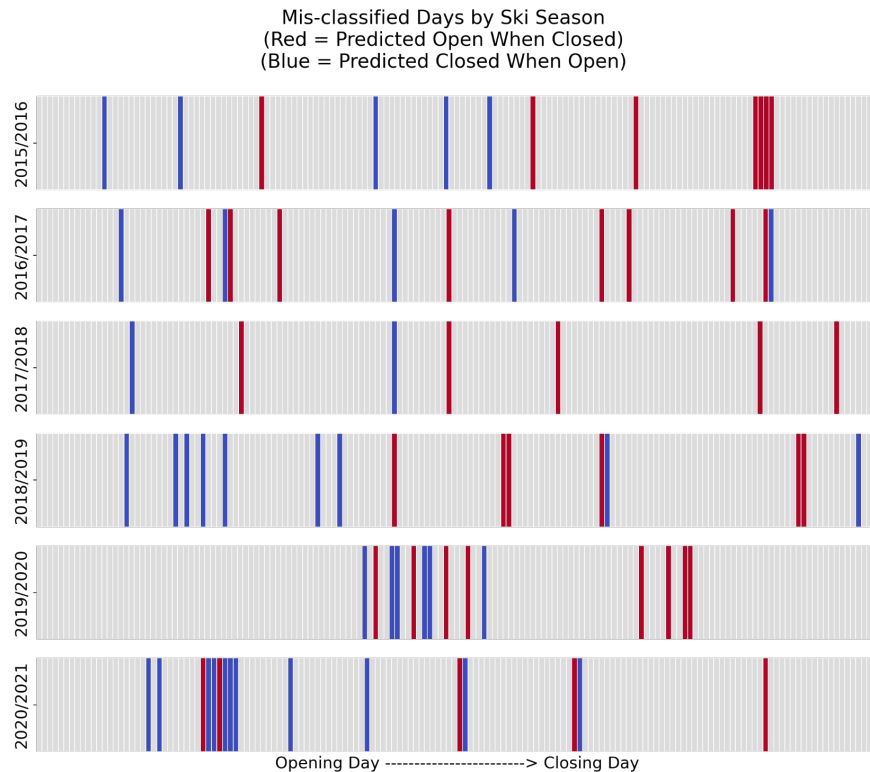Windy this morning? Probably closed today

Odds Ratios of Predicting Features
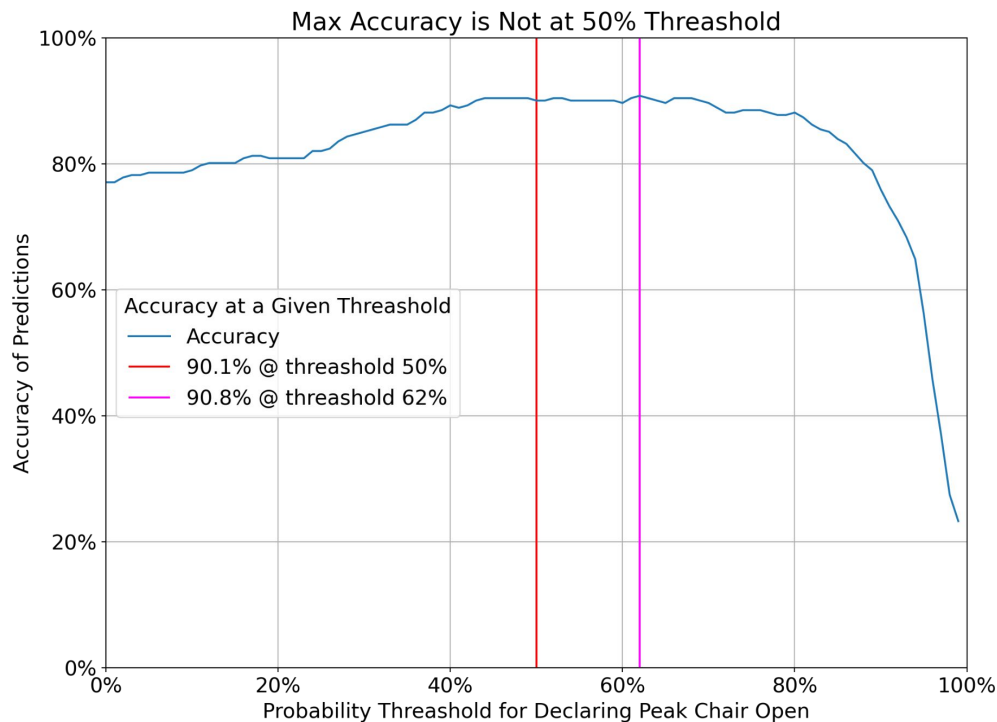
Model Evaluation Mis-classified Days

Early season calling too many closed days
Late season calling to many open days

Mis-classified Days by Ski Season
(Red = Predicted Open When Closed)
(Blue = Predicted Closed When Open)

Opening Day ------------------------> Closing Day

Model Evaluation – Decision Boundary

Squeezing another 0.7% accuracy from the model

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