**Intro**

As the airline industry is in deep recovery after the impact of the coronavirus, airlines had become interconnected with politics and social issues. Approximately 2400 tweets were drawn from the Twitter API, covering the time-period of late March to early April of 2021. We filtered through each tweet to categorize observations to a specific airline with the intention of providing text and sentiment analysis. In short, we wanted to highlight sentiments and texts that were prevalent on the airline Twitter space throughout a small period of 2021.

Selected airlines include: Alaska Air, American Air, Delta Air, Southwest Air, and United Air.

**Violin Plot**

To first understand social media user’s perceptions of major U.S airlines, we first use the AFINN dictionary to apply a polarity score on individual words from each tweet.

Then, after categorizing by airline, we visualize a violin plot to look at the polarity distribution by each airline.

What is interesting is that American, Delta, Southwest and United have a large distribution of negative polarity scores, and a median score of -1. In comparison, Alaska Air has a polarity score of 1 and a denser volume of positive polarity scores.

**Sentiment \* Frequency Plot**

To closely examine words associated with each airline, we apply the AFINN dictionary to individual words and multiply each polarity score by the frequency of individual words to observe their overall contribution to the text. Like previously stated, we then categorize by airline and sample the top 5 words by the absolute value of word-contribution.

Again, American, Delta, Southwest and United airlines have a largely negative word-contribution. With many words relating to boycotts and racism, this visualization indicates how interconnected social issues and politics have become with major U.S airlines. Government bailouts of the airline industry, Covid-19, and the Capitol riots in early January in conjunction with rising media coverage could be major reasons on why the airline industry has become embedded in political and social issues.