**Challenge 1:** Predictive Algorithm

**Details:** Across the world, COVID-19 cases are constantly fluctuating, often influenced and shaped by *public policy, community sentiment and other external factors*. The United States of America has seen some of the wildest changes globally, and understanding its inputs requires a deep analysis into the drivers of the infection rate on the local, state and federal level.

We want teams to develop an algorithm that will **predict the number of positive COVID-19 cases in the United States of America, between 27 July to 15 August**.

**Requirements:** Teams must have a machine learning algorithm component in their solution. Submissions will be tested against the World Health Organisation's statistics of active cases in the United States.

**Judging Criteria:** There are two equally weighted judging criteria for this challenge:

1. Accuracy of predictive model

2. Quality of the assumptions, approach and the algorithm

**Shortlisting:** Top 20% of teams will be shortlisted, and then presented to judges for ranking.

**Ideas & Datasets:**

* **Idea III:** Impact of the US upcoming election on Covid-19 cases. (prediction and/or NLP).

**Challenge 2:** Natural Language Processing

**Details:** Everyday, thousands of messages, conversations and tweets are shaped by worldwide events, interesting trends and other community phenomena. From Presidential tweets affecting stock prices, hashtags affecting social issues, or protests influencing public policies: causes and effects based on the human language are insightful as they are impactful.

We want teams to use any social media posts, news feed articles, policy decisions and COVID statistics, to extract interesting insights or correlations.

**Requirements:** Solutions must have a component using natural language processing techniques. There are no database restrictions.

**Judging Criteria:** There are three equally weighted judging criteria for this challenge:

1. Innovation and originality of solution

2. Potential economic or social impact of model

3. Technique of solution

There are no restrictions on solution type: all websites, apps, dashboards and other solutions will be accepted.

**Shortlisting:** Top 30% of teams will be shortlisted and presented to judges for ranking.

**Ideas & Datasets:**

**Challenge 3:** Visualisation Challenge

**Details:** The pandemic has hit many job types hard. But the impact is not distributed equally, most industries have seen their profits shrink and their workforce downsized, while others have thrived amidst a unique supply and demand shift.

We want teams to **visualise that analysis and the trends of which job types that have been most affected, positively or negatively, prior to and over the course of the pandemic.** Impacts can be assessed through any discernible measure, e.g. market value, layoffs, remote working habits, resilience, etc.

**Requirements:** No restrictions: all websites, apps, dashboards and other solutions will be assessed. Bonus points for teams that use Oracle Cloud.

**Judging Criteria:** There are two equally weighted judging criteria for this challenge:

1. Depth of insight into each job type

2. Quality of assumptions and approach

**Shortlisting:** Top 30% of teams will be shortlisted and presented to judges for ranking.

**Ideas & Datasets:**

* Covid 19 impact on education <https://data.world/liz-friedman/covid-19-impact-on-education>
* Real time people’s reaction toward covid-19 tweets: World wide map that shows majority of population reaction in each country
  + Do we need to think of the causes?
  + Mix of NLP and visualization
* All datasets related to COVID-19: <https://ec.europa.eu/eurostat/web/covid-19/data>