

"Please follow the instructions below to complete the data science challenge. We expect it to take no longer than 1-2 hours. However, for your convenience, we allow 24 hours from the time of receipt to submit your code.

## **Data Science Interview Challenge:**

The goal of this challenge is to produce a sample of your machine learning skills as well as your ability to write clean, readable, and well-documented code.

### **Problem Statement**

You will use credit card transactions data to detect fraud. Fraud can take many forms, whether it is someone stealing a single credit card, to large batches of stolen credit card numbers being used on the web, or even a mass compromise of credit card numbers stolen from a merchant via tools like credit card skimming devices. Note that this dataset loosely resembles real transactional data, but the entities and relations within are purely fictional.

Please complete the following tasks:

1. Programmatically download the data from: <https://github.com/flowcast/datasci-challenge>
2. Briefly describe the data structure, provide summary statistics, and at least one plot.
3. Build a model to determine whether a given transaction is fraudulent or not. Each of the transactions in the dataset has a field called isFraud.

1. Hint: This task should involve some feature engineering although it can be limited.
4. Provide an evaluation of model performance.
5. Document your solution. Hint: Documentation should include:
  1. Assumptions about the data
  2. Explanations of methods i.e. algorithm used and why, what features were important, and any alternative methods considered
  3. Conclusions about your solution
  4. Further steps you would take if given more time

## **Important Guidelines**

Although your submission will be in Python, we wish for you to use any tools you are comfortable with.

- You are free to choose between notebooks and scripts.
- You can document within your code or include a separate README file, or some combination of both.

To provide a fair evaluation, we ask that you:

- Refrain from receiving help from others on this challenge.

- Stick to the time limit of 1-2 hours. We will evaluate your submission knowing that you had limited time and expect a simple yet complete and working solution.

To submit your solution:

- Zip your work and email the results to me.
- Please do *not* include the downloaded dataset in your submission.
- To maintain anonymity, please do *not* include your name in your submission, including content and file names."