# Coding Challenge – Senior Data Scientist

Your webshop has a fraud problem!

Attached you will find a parquet file containing orders that were placed in your webshop. Every order represents the purchase of an item. The following columns are present in the dataset:

- `timestamp`: When the order was received by your shop.
- `session_id`: Identifier of the session the order was placed from.
- `device`: The type of client device the order was placed with.
- `price`: A single item can be purchased in an order. This is the price of the item.
- `is_fraud`: Indicates whether the order is fraudulent.

Find patterns in the data to identify fraudulent orders. According to your fraud detection experts, fraudulent orders can often only be identified in the context of other orders. Using the identified fraud patterns, build a simple, elegant and performant algorithm that accepts or rejects orders in real-time. Rejecting an order means that you refuse the transaction, i.e., you will neither fulfill it nor accept any payment for it.

When an order is accepted and is not fraudulent, your shop makes 1% of the order price in profit. If the order is accepted but turns out to be fraudulent, the entirety of the value of the order is lost. If an order is rejected, you make no profit but also no loss.

Show the performance of your algorithm by calculating the generated profit uplift.

Your submission should contain your solution that works through orders one by one as it would in a real-time environment. It should also contain a concise explanation of the fraud patterns in the provided dataset. Additionally include any data explorations and performance evaluations that you performed.

Please submit your solution within 1 week as a ZIP file via email. The task is intended to be completed in 4-5 hours of work.