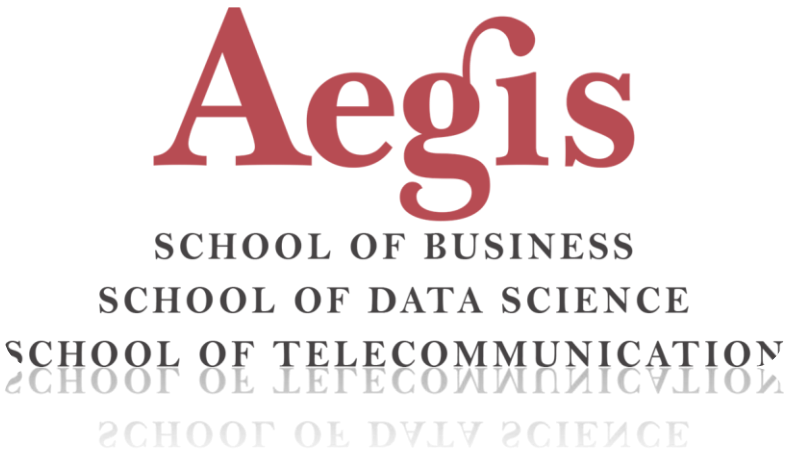
DATA SCIENCE HACKATHON



Learn to do Data Science (Problem statements)

Binary Customer Churn

- A marketing agency has many customers that use their service to produce ads for the client/customer websites. They've noticed that they have quite a bit of churn in clients. They basically randomly assign account managers right now, but want you to create a machine learning model that will help predict which customers will churn (stop buying their service) so that they can correctly assign the customers most at risk to churn an account manager. Luckily they have some historical data, can you help them out? Create a classification algorithm that will help classify whether or not a customer churned. Then the company can test this against incoming data for future customers to predict which customers will churn and assign them an account manager.

Data Description

- **The data is saved as customer_churn.csv. Here are the fields and their definitions:**

  Name : Name of the latest contact at Company
  Age: Customer Age
  Total_Purchase: Total Ads Purchased
  Account_Manager: Binary 0=No manager, 1= Account manager assigned
  Years: Total Years as a customer
  Num_sites: Number of websites that use the service.
  Onboard_date: Date that the name of the latest contact was onboarded
  Location: Client HQ Address
  Company: Name of Client Company

Expected outcome Sample

Once you've created the model and evaluated it, test out the model on some new data (you can think of this almost like a hold-out set) that your client has provided, saved under new_customers.csv. The client wants to know which customers are most likely to churn given this data (they don't have the label yet).

Sample of expected Data frame

Cmd 3

```
+----------------+----------+
|         Company|prediction|
+----------------+----------+
|        King Ltd|       0.0|
|   Cannon-Benson|       1.0|
|Barron-Robertson|       1.0|
|   Sexton-Golden|       1.0|
|        Wood LLC|       0.0|
|   Parks-Robbins|       1.0|
+----------------+----------+
```

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