

Case: Data Scientist

Alfa Co. has been running paid marketing for a client for about 2 years and we want to help them understand the true impact our marketing has on their total app trial traffic. We want to know:

- **How many users signed up for the free trial of the app due to marketing executed by Alfa Co. historically? Which are the main contributing factors?**
- **How to best allocate a marketing budget of \$42000 over the coming 4 weeks?**

Some guidelines:

- Use any model(s) and tools of choice to answer the questions above.
- Please present your results and conclusions supported by relevant assumptions and a motivation why this approach was your preferred one. Use the document type of your choice.
- Please attach the code, with comments, used to solve the task. The comments should be detailed enough so we can get a basic understanding of your thought process.

To your help, you have access to two datasets. One contains daily data of app trials per day, and the other contains a breakdown of ad spending (by day and campaign). Below are some details on the dataset columns:

trials - total app trials per day

spend - spend in \$ on the ads for a given campaign/day

campaign - the name of the campaign

Note: the campaign name follows a naming convention, which can be decoded in this way:

network_targeting.type_target.audience

For example, facebook_1_A is a facebook campaign with targeting type 1 and target audience A.