Apogee Innovation Challenge

AIC-2019

REFLEXIS

APOGEE INNOVATION CHALLENGE

WHAT IS AIC?

AIC is a unique college event aimed to provide a platform to students to work on real industrial problems while being in the college itself.

HOW DO I BENEFIT FROM IT?

Except the enormous amount of experience you gather about the actual working of industry, AIC has lucrative prizes to offer. It gives students a chance to showcase their talent to companies and win huge cash prizes and procure Summer Internships at leading global brands.

Reflexis is the leading provider of real-time store operations solutions having been selected by more than 250 global retailers to simplify store operations, optimise labor spend, and improve store execution.

The **Reflexis ONE real-time work platform** helps retailers drive simplification for stores and improved line-of-sight for field management resulting in significant time savings, precise execution, and a superior customer experience.

Reflexis Systems

Problem Statement

The data set provided for analysis contains the following metrics for 150+ different store locations & more than a couple of years' worth of data:

- **Actual traffic (number of people visiting the store)**
- **Actual number of sales transactions (each transaction can contain one or more items)**
- **Actual sales in dollars**
- **System generated staff schedule hours & manager adjusted (during the relevant week) staff schedule hours for the day.**

OBJECTIVE

Your objective is find insights by analyzing the data using AI / ML techniques and come up with an algorithm that will suggest the correct number of staff schedule hours for a given store location based on historical patterns. The solution should also identify the impact of any changes made by the manager on the system generated schedule and determine which managers make better changes to the system generated schedule or more generally, what factors result in better schedule adjustments by managers vs changes that result in worse / non-optimal labor schedule & costs.

SOLUTION

The ideal solution should:

- **Develop business rules/model(s) that produce a qualitative measure of predicted store performance based on staffing levels/ hours spread of a planned schedule.**
- **Identify generalised metrics that prove that when stores are staffed within a set of guidelines, the store will "perform well". These metrics will be used to help measure the stores ROI and in turn reinforce the value (ROI) of Reflexis solution as well.**
- **Create a presentation with appropriate visualisations explaining the correlation of store staffing and store performance based on various metrics**

Guidance Notes

- Traffic & Sales numbers will vary based on seasonality, holiday & promotional events (none of which are marked/ provided in the data set)
- There may be some days where actuals not present (most likely holidays)
- Some days do not have traffic data due to potential malfunctions in the traffic sensors in those stores
- Some of the stores are full price stores whereas others are discount stores & traffic and sales patterns vary accordingly (Marked in the second tab of the spreadsheet)
- Some stores are based in states with warm weather (e.g. Texas, California, etc.) whereas others are based in states with cold weather (e.g. Michigan, Minnesota, etc.). These are also marked in the second tab of the spreadsheet against a store location

Rewards

Cash Prize of **Rs. 50,000/-**

Summer Internship for members of the winning team.

The teams will be graded based on their approach, explanation of one or more methods attempted and reasons why specific methods were used/not used final solution & presentation.

Registration Steps

- **To register, visit the following link: www.bits-apogee.org/aic**
- **You need to fill out the following google form stating that you accept the Terms & Conditions listed: https://goo.gl/forms/tDGryEgSAvXej3dd2**
- Once your declaration has been received, you'll get a mail with the dataset attached from aic@bits-apogee.org.
- The solutions need to be mailed to aic@bits-apogee.org before 15th March 2019. **In case you are shortlisted, you may improve upon your final presentation.**

Deadlines

- **Registration closes - 1st March 2019**
- **Initial Submission - 15th March 2019**
- Top 10 shortlisted teams announcement - 20th March 2019
- Video Conferencing Presentation - 29/30/31st March 2019
- Final Result Announcement - 15th April 2019

Terms and Conditions

- **This data set has been shared exclusively for the Apogee Innovation Challenge 2019 participants only and is not meant to be shared, published or distributed with/on any other platform, group or event. Any findings / outcome of this challenge / exercise shall be the property of Reflexis Systems Inc. and should not be used for any commercial / academic / research purpose without the express written permission of Reflexis Systems Inc.**

- **The teams will be graded based on their approach, explanation of one or more methods attempted and reasons why specific methods were used/not used final solution & presentation.**

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