



ONLINE SHOPPERS PURCHASE INTENTION

Write your company name above and an intriguing summary of what your company does here.

ABOUT THE DATASET



- Online shopping data
- Aim to identify if a user will purchase or not
- Consist of 18 features collected through browser & website information
- Total 12,330 samples (i.e. website sessions)

BUSINESS QUESTIONS

Conversion Rate Performance

Evaluate whether the online business is performing

Conversion Rate Performance

Evaluate whether the online business is performing

well

Customer Segmentation

Identify target customers and apply business strategy

GOAL



Understand **visitor characteristics** & corresponding **web behavior** to provide recommendations through EDA



Build **purchase prediction model** for purchase intention forecast





STEPS

-  **1 FAMILIARIZE VARIABLES**
-  **2 UNDERSTAND DATASET & DATA CLEANING**
-  **3 EDA ANALYSIS & RECOMMENDATION
(maybe some clustering as well)**
-  **4 ENCODING & SAMPLING**
-  **5 FEATURE SCALING**
-  **6 MODEL BUILDING & HYPERTUNING**

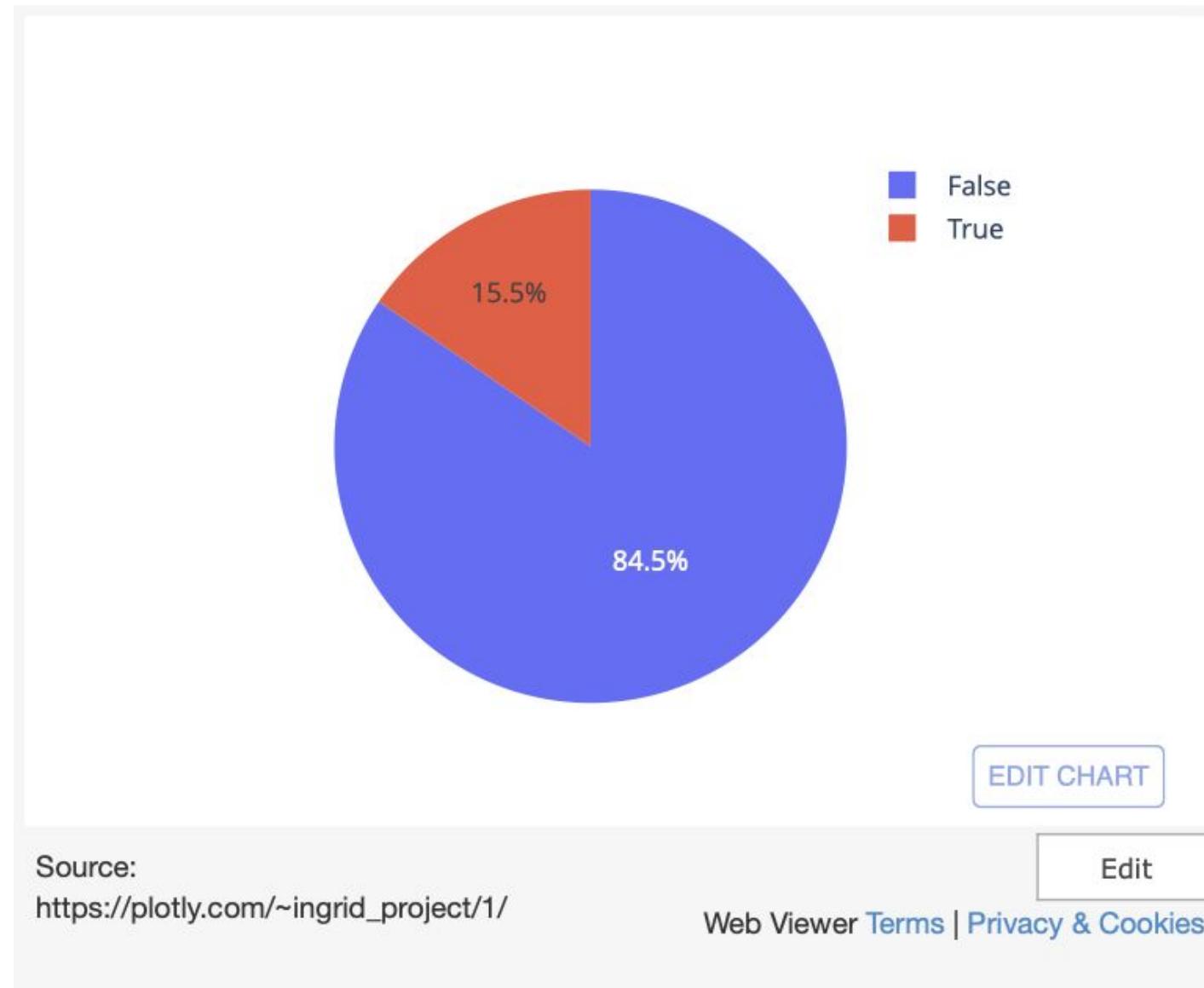


REVENUE

Type: Bool

True: Purchase | **False:** Did not purchase

Sessions with Purchase Count



TARGET VARIABLE

Binary Classification Problem



A high conversion rate

at 15.5%

Assuming the dataset provides full data for the given period, 15.5% is very high versus market benchmark at 2.9-3.2% during 2018



Source: [Statista - Conversion rate of online shoppers worldwide 2018-2020](#)

Page

1. **Page Type (3 kinds)**
 - **Administrative / Informational/ Product Related**
 - No. of pages of corresponding type that the user visited.
 - **Administrative / Informational/ Product Related Duration**
 - Amount of time spent in corresponding category of pages.
2. **Bounce**
 - **Bounce Rate:** % visitors who enter the website through that page and exit without triggering any additional tasks.
 - **Exit Rate:** % pageviews on the website that end at that specific page
3. **Page Value**
 - Avg. value of the page averaged over the value of the target page and/or the completion of an eCommerce transaction.

Device

- Operating Systems
- Browser

Date

- Month
- Weekend
- Special Day

Others

- Traffic Type (Traffic Source)
- Visitor Type (New / Returning)
- Region

FEATURE VARIABLES

Categorical & Numerical

Session-based Variables



INSIGHT 1 - Visitor Type

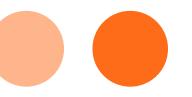
Chart

- Visitor type ratio (Mostly return visitors)
- Purchase + Visitor type ratio (Rely on return visitors)
- Purchase + Visitor type conversion rate comparison

- Customer retention / loyalty is good

Potential business issue:

- Customer base is small (High conversion rate)
- Rely heavily on 1 group of customers
- Hard to scale up business, sales volume



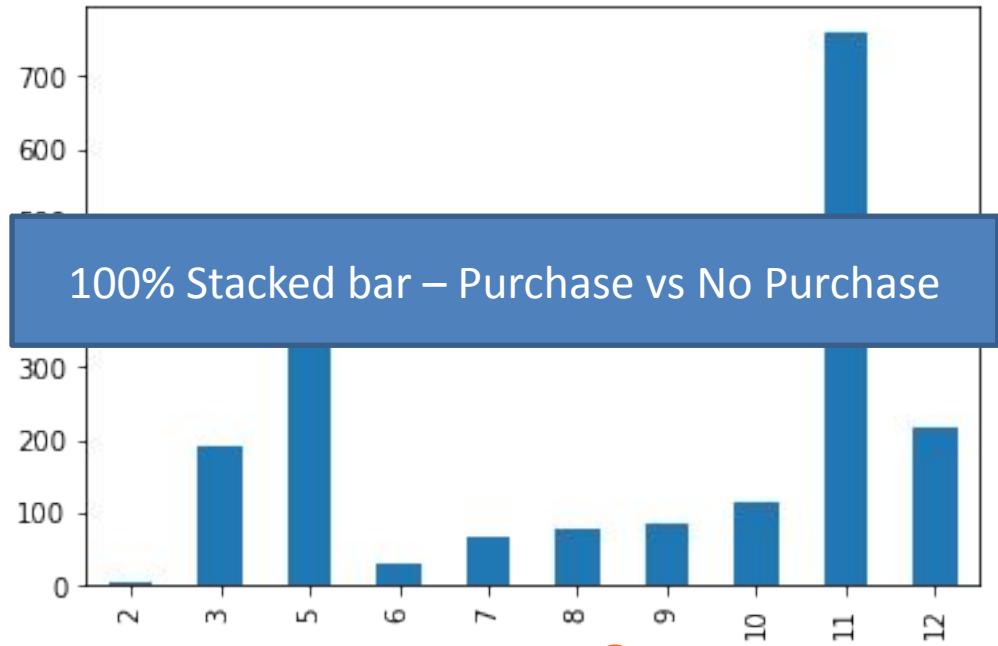
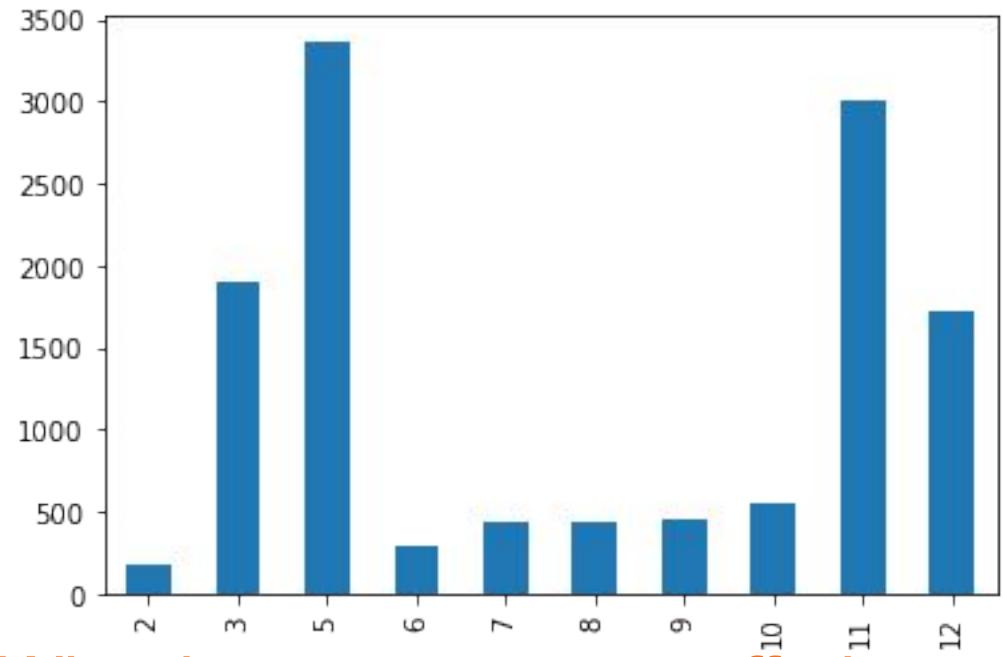
RECOMMENDATION

+ Traffic, prospect new customers



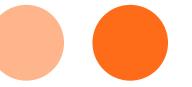
INSIGHT 2 - Seasonality

Show your company's product or service as the ultimate solution to these problems.



What is your company offering your target customers?

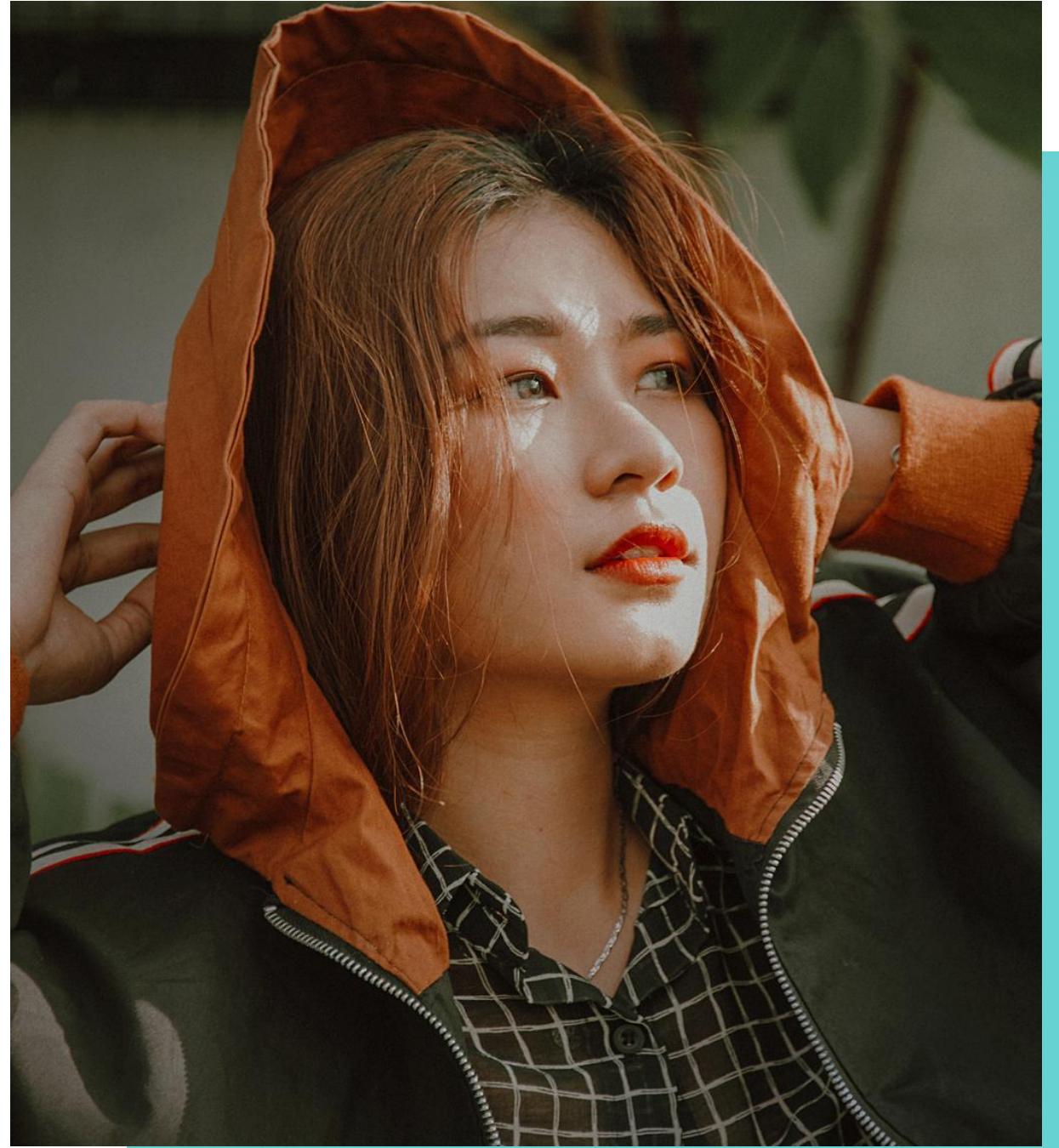
How can they benefit from the features of your product or service? You can place a logo beside your value proposition to introduce your company.



RECOMMENDATION

- Boost sales during low season

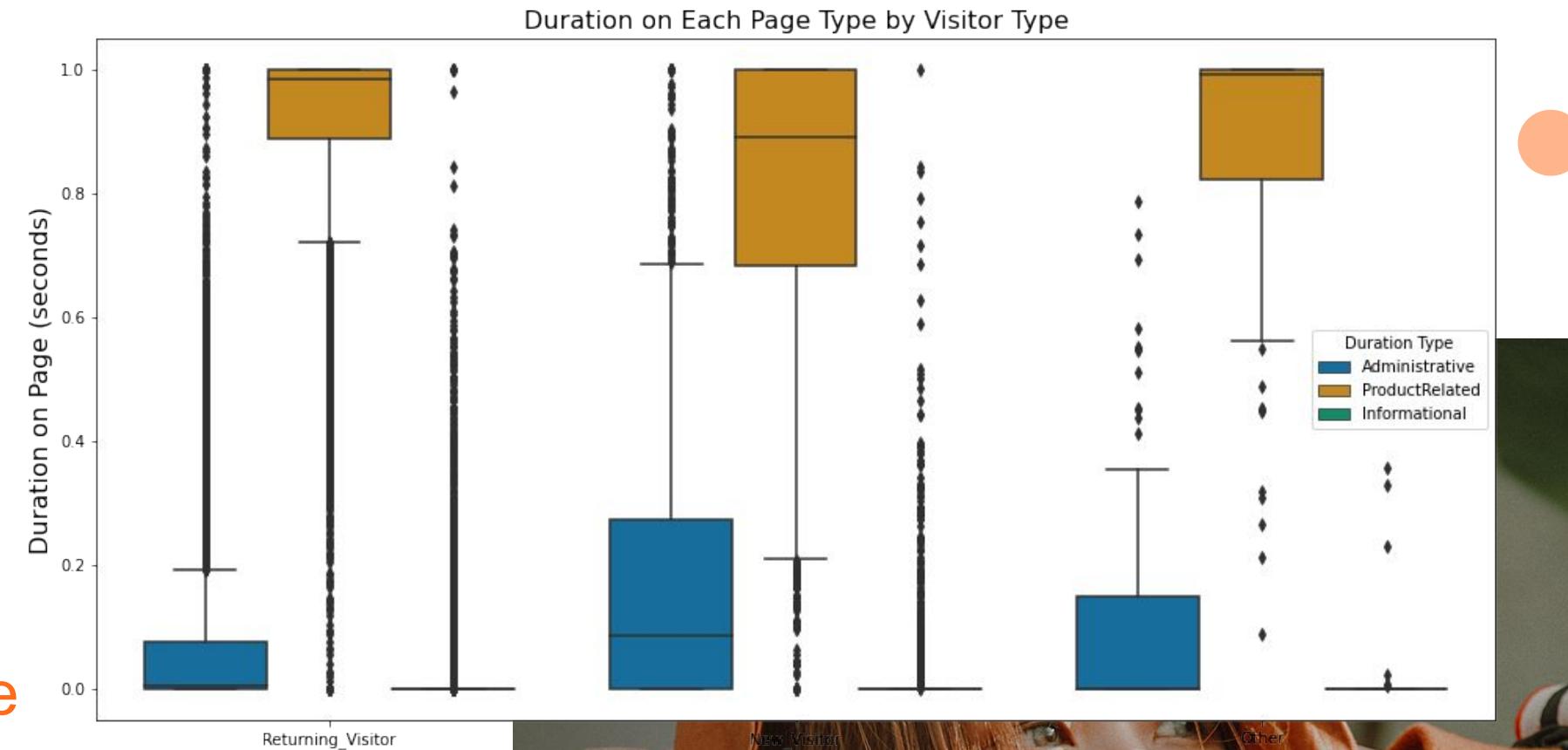
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INSIGHT 3 - Web Performance

How to today's standards the
ultimate solution to these problems.

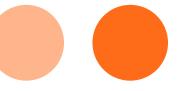
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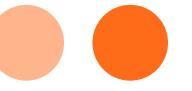
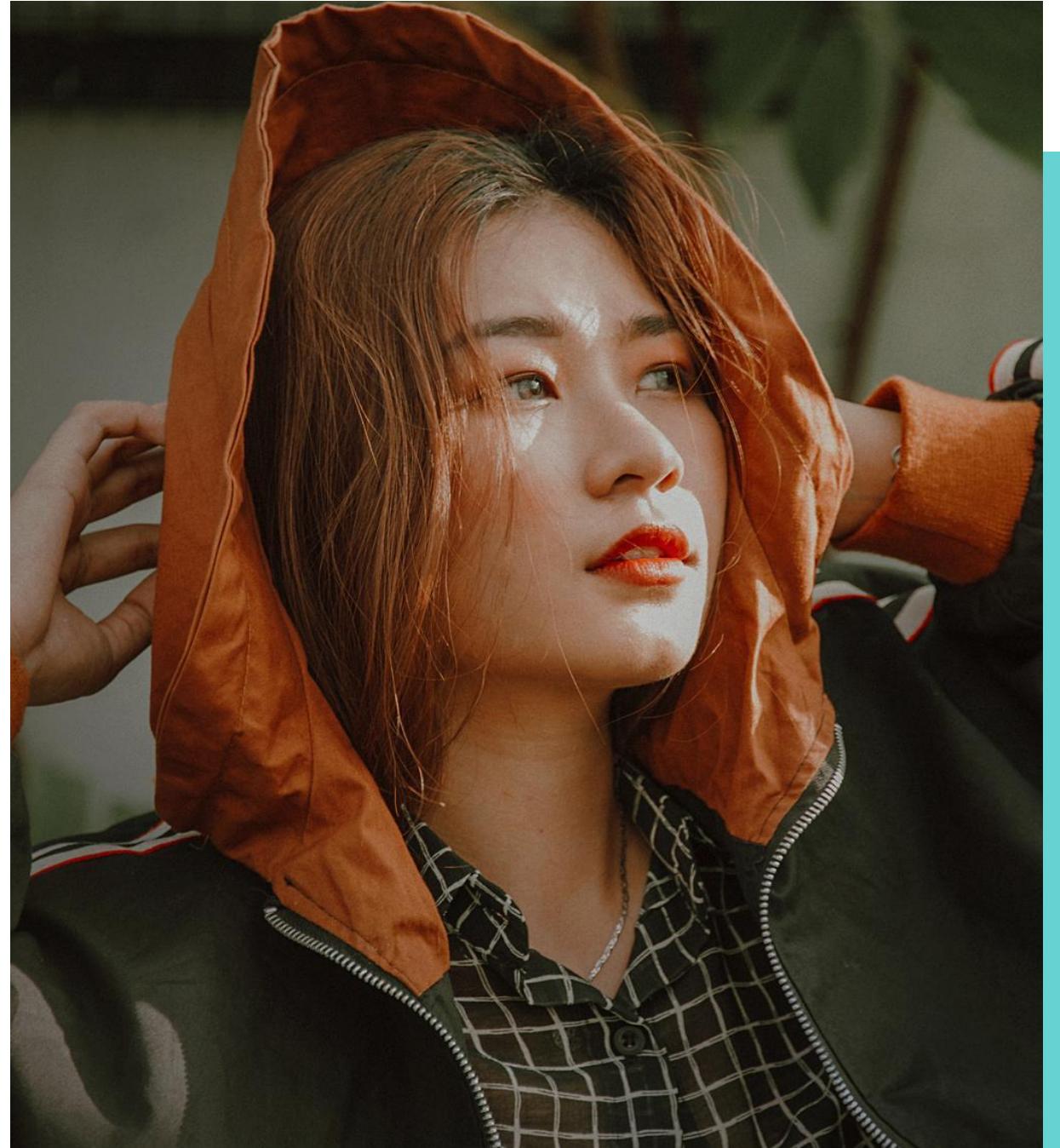


INSIGHT 4 -

Device

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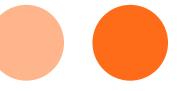
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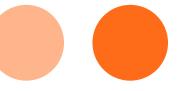


INSIGHT 5 -

Channel Efficiency

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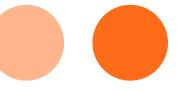
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HOW IT WORKS

It's showtime! Create awareness and curiosity around your product or service.

Share a story on how your product or service works.
Produce a quick demo video your audience can watch
or share descriptive step-by-step photos.

ENCODING

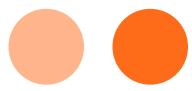
Method, variable

Categorical

Numerical

What is your company offering your target customers?

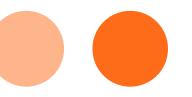
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SAMPLING

Why, method, how?

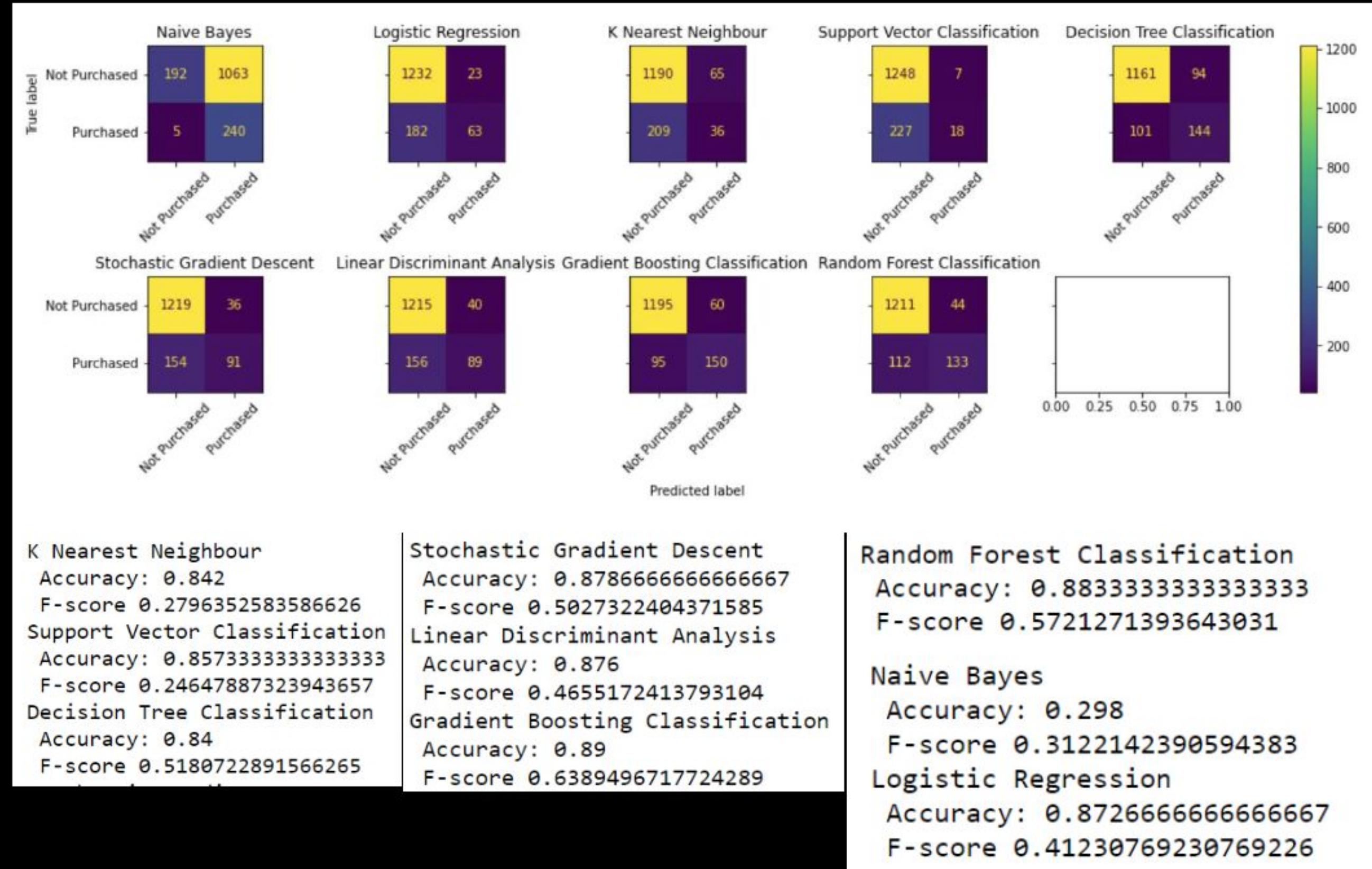
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Classification algorithm exploration

The best classification algorithm, I believe, is measuring the accuracy and F-score of them.

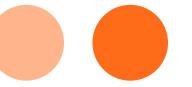
A better idea of performance I also used confusion matrix for prediction.



FEATURE IMPORTANCE

- Table
- Drop?

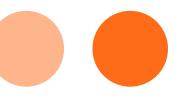
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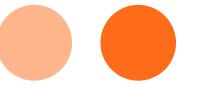
HYPERTUNING

- Results (C: , xxx, xxx)
- Hyper-tuned results
- Classification report

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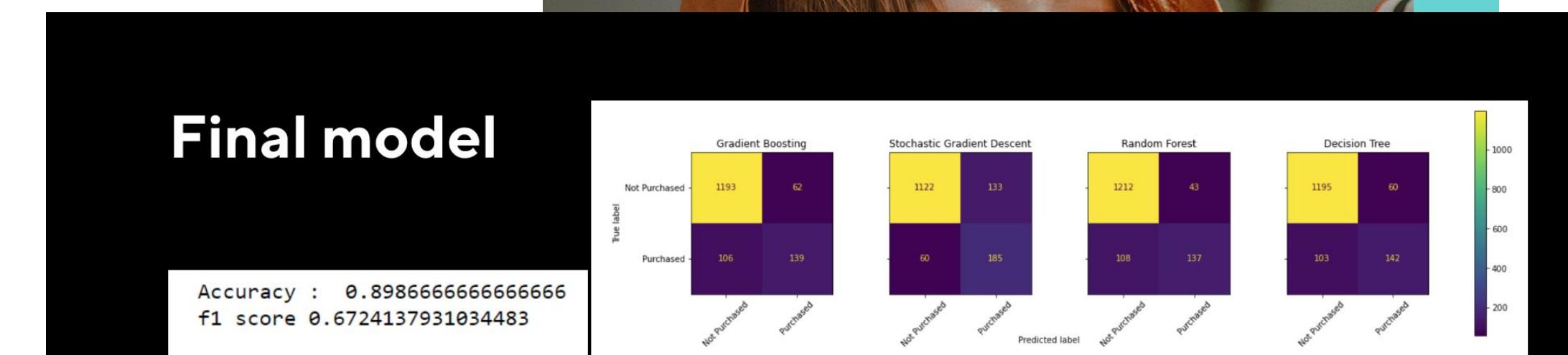


FINAL MODEL



- Comparison
- Classification Report

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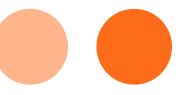


The final model is a combination of the three best models which are:

- Random Forest
- Decision Tree
- Stochastic Gradient Descent

This allowed me to achieve an accuracy of 0,899 with a F-score of 0,67.

CONCLUSION



**CASSANDRA
ROMAINE**
CEO & Founder



**IDRIS
LETTUCE**
Creative Director



**VANESSA
ARUGULA**
Biz Dev Officer



RECOMMENDATION 1



Illustrate on a map where your product or service is available for purchase. You can also use a table or a list of the online and physical stores where your product or service can be bought.

A photograph of a young woman with long blonde hair, seen from the side and back, walking away from the viewer. She is wearing a dark denim jacket over a dark top and blue jeans. The background shows a parking lot with several orange traffic cones and a large industrial building with multiple chimneys in the distance.

CALL TO ACTION

Guide your potential customers to take action.

Make your call-to-action statement clear.

To encourage them to take action, some call-to-action examples you may want to use are “Enjoy free shipping!”, “Sign up for a 30-day free trial”, or “Money-back guarantee” - anything to establish rapport and trust.

123-456-7890

hello@reallygreatsite.com

www.reallygreatsite.com

CONTACT US



FREE RESOURCES

Use these free and recolourable icons and illustrations in your Canva design.

