Survivor Data Analytics

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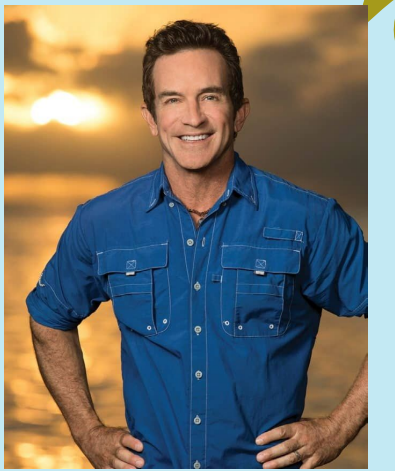
Project Introduction

Goal: In this project, we wanted to work as a team to understand what it takes to win the CBS game show Survivor from a casting stand point and explore how the game has changed over 41 seasons.

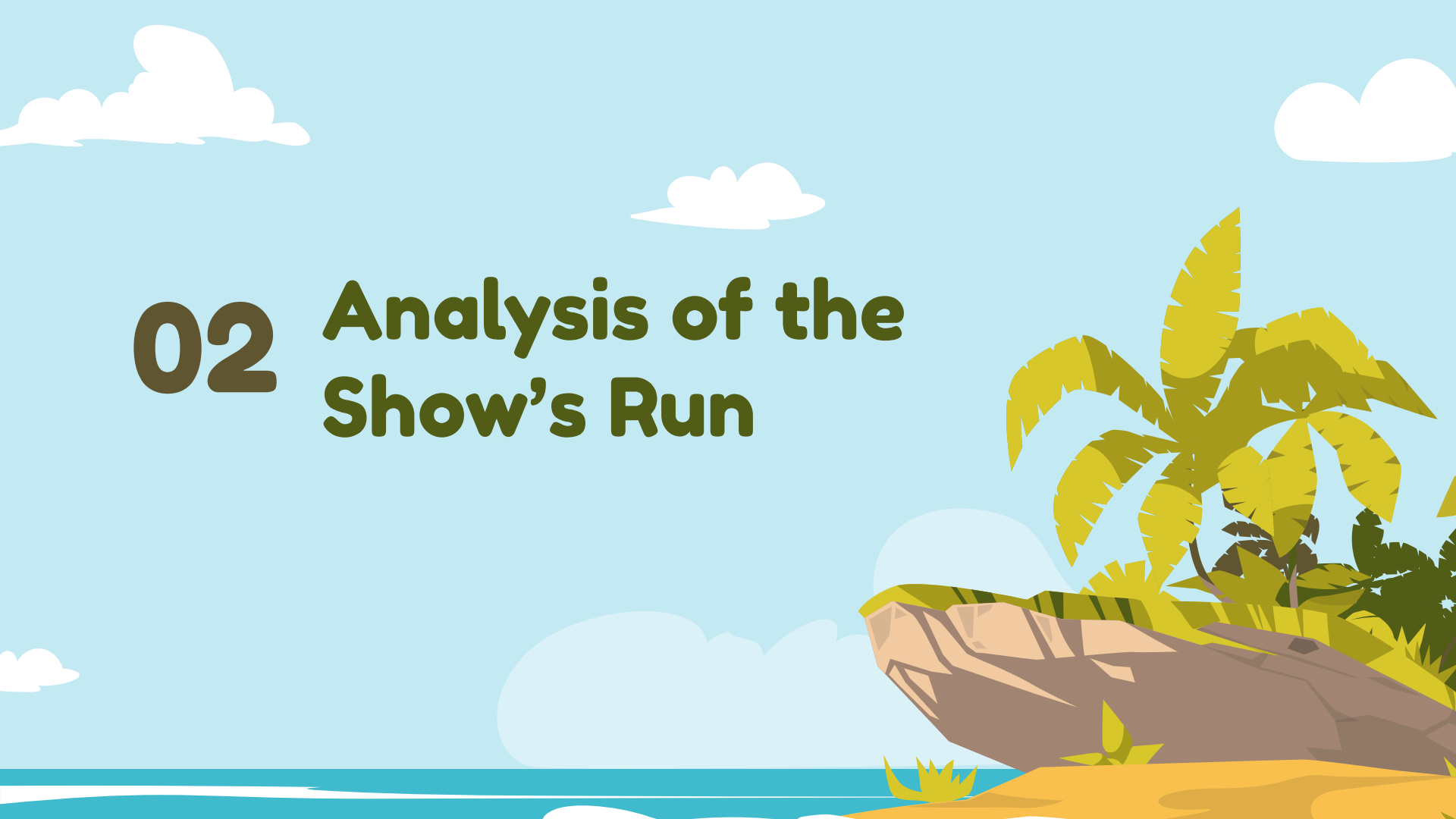
Project Parts:

I. Analysis of Show's Run (Visualizations)
II. Analysis of Winners (Visualizations, Logistic Regression Model)
III. Analysis of Castings (Power BI Dashboard)

Data: Our data is sourced from David Oehm who organized several spreadsheets of information about each season's cast, challenge, viewers, and more. The data was originally developed to create the package "survivoR" but has been repurposed for this Python data analysis project.

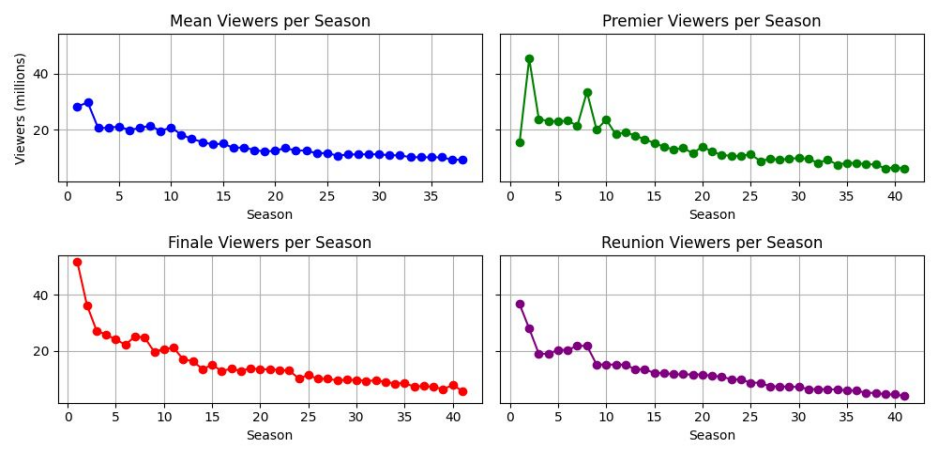


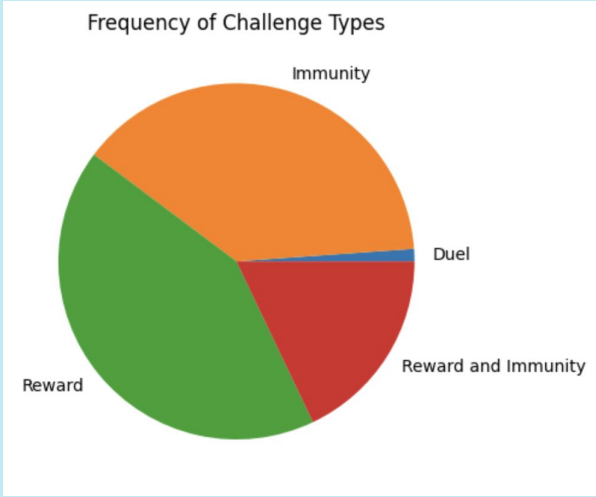
02 Analysis of the Show's Run



Ava & Jade

Analysis of Show over 41 Seasons





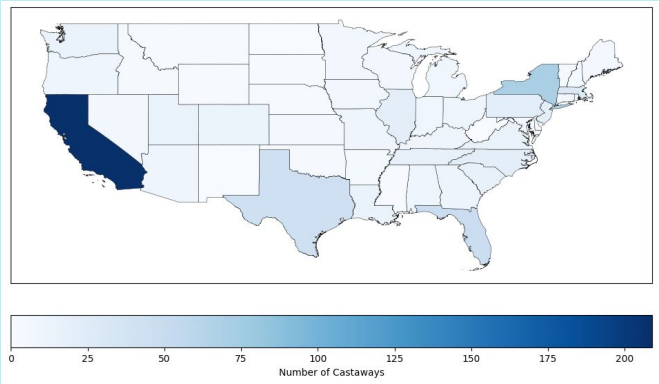
	precision	recall	f1-score	support
0	1.000000	0.857143	0.923077	7.000000
1	0.666667	1.000000	0.800000	2.000000
accuracy	0.888889	0.888889	0.888889	0.888889
macro avg	0.833333	0.928571	0.861538	9.000000
weighted avg	0.925926	0.888889	0.895726	9.000000

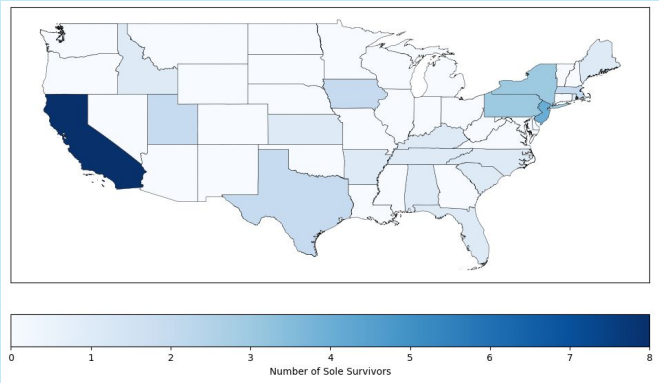
```
# Predict the odds for a new season
new_season = pd.DataFrame({'Viewers Premier': [12.5], 'Viewers Finale': [15.0],
                           'Viewers Reunion': [10.0]})
success_prob = model.predict_proba(new_season)[:, 1]
print("Probability of success for the new season: {:.2f}%"
  .format(success_prob[0] * 100))
```

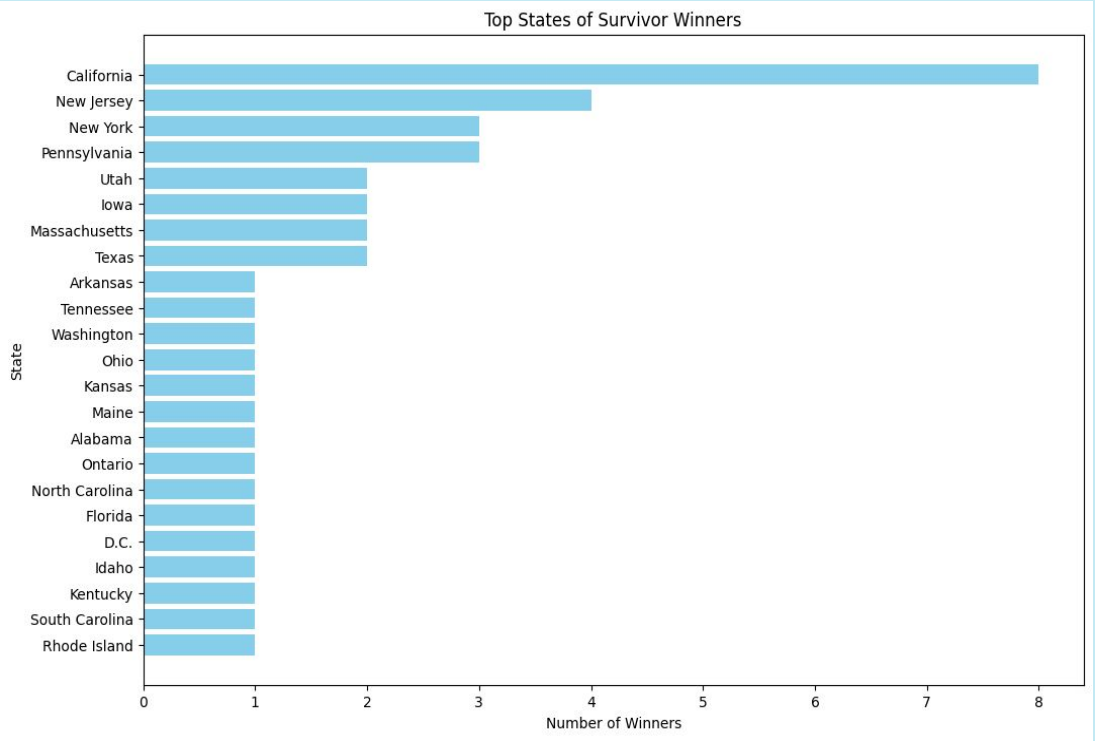
```
Probability of success for the new season: 8.99%
```

03 Analysis of Winners

Hometowns

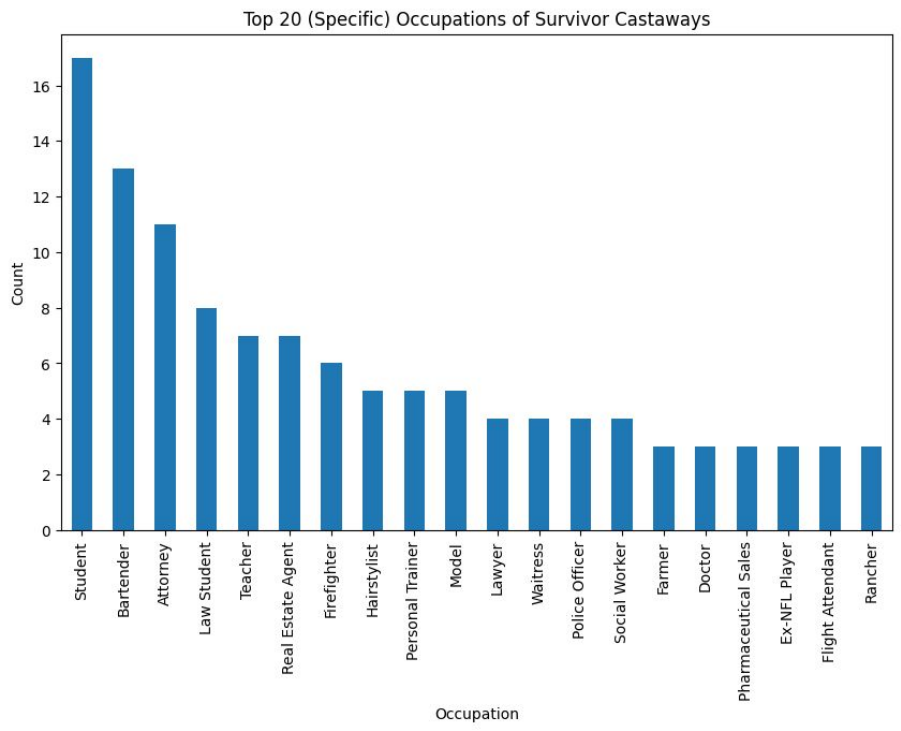

0
25
50
75
100
125
150
175
200
Number of Castaways

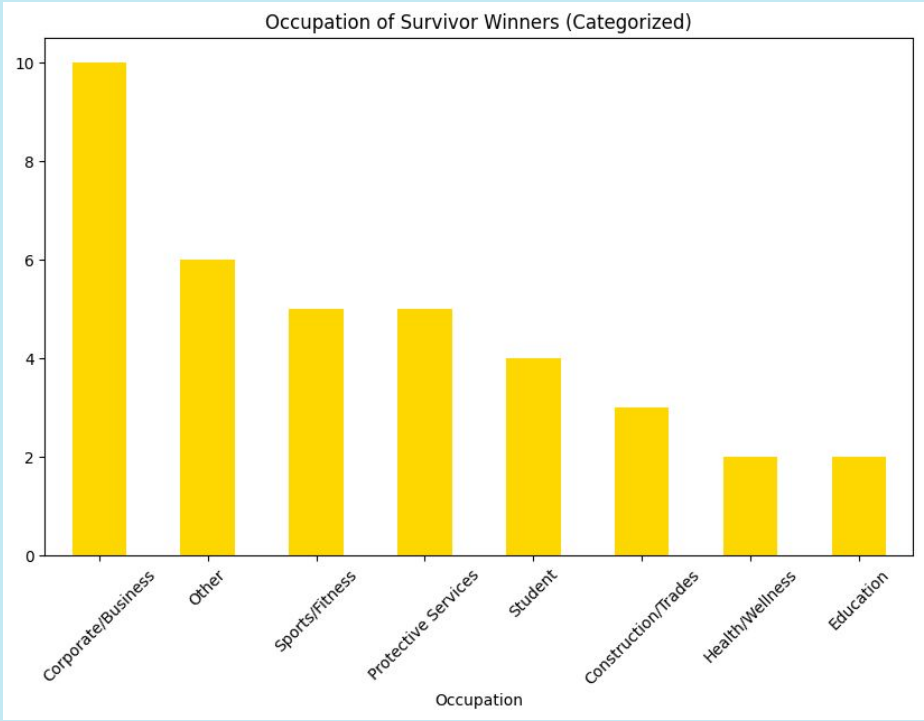

0
1
2
3
4
5
6
7
8
Number of Sole Survivors


Top States of Survivor Winners
California
New Jersey
New York
Pennsylvania
Utah
Iowa
Massachusetts
Texas
Arkansas
Tennessee
Washington
Ohio
Kansas
Maine
Alabama
Ontario
North Carolina
Florida
D.C.
Idaho
Kentucky
South Carolina
Rhode Island
State
0
1
2
3
4
5
6
7
8
Number of Winners

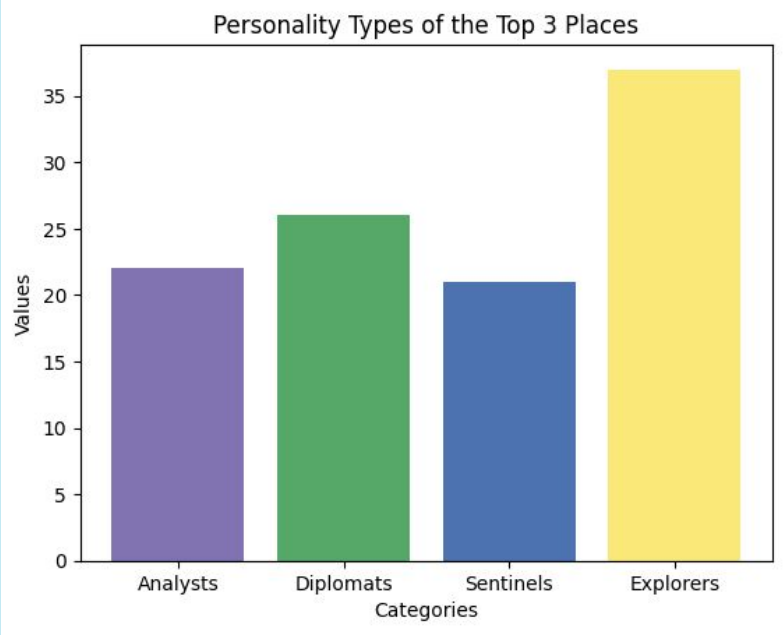
Naomi & Annie

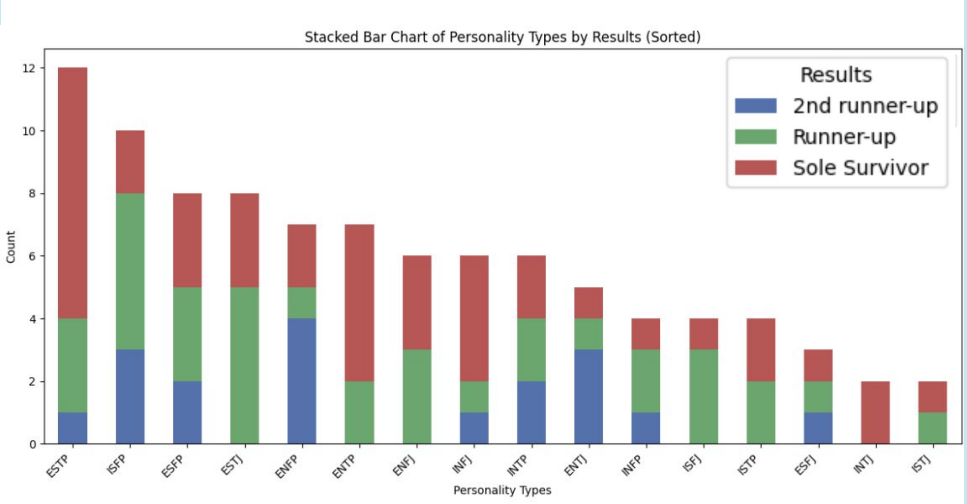
Occupations



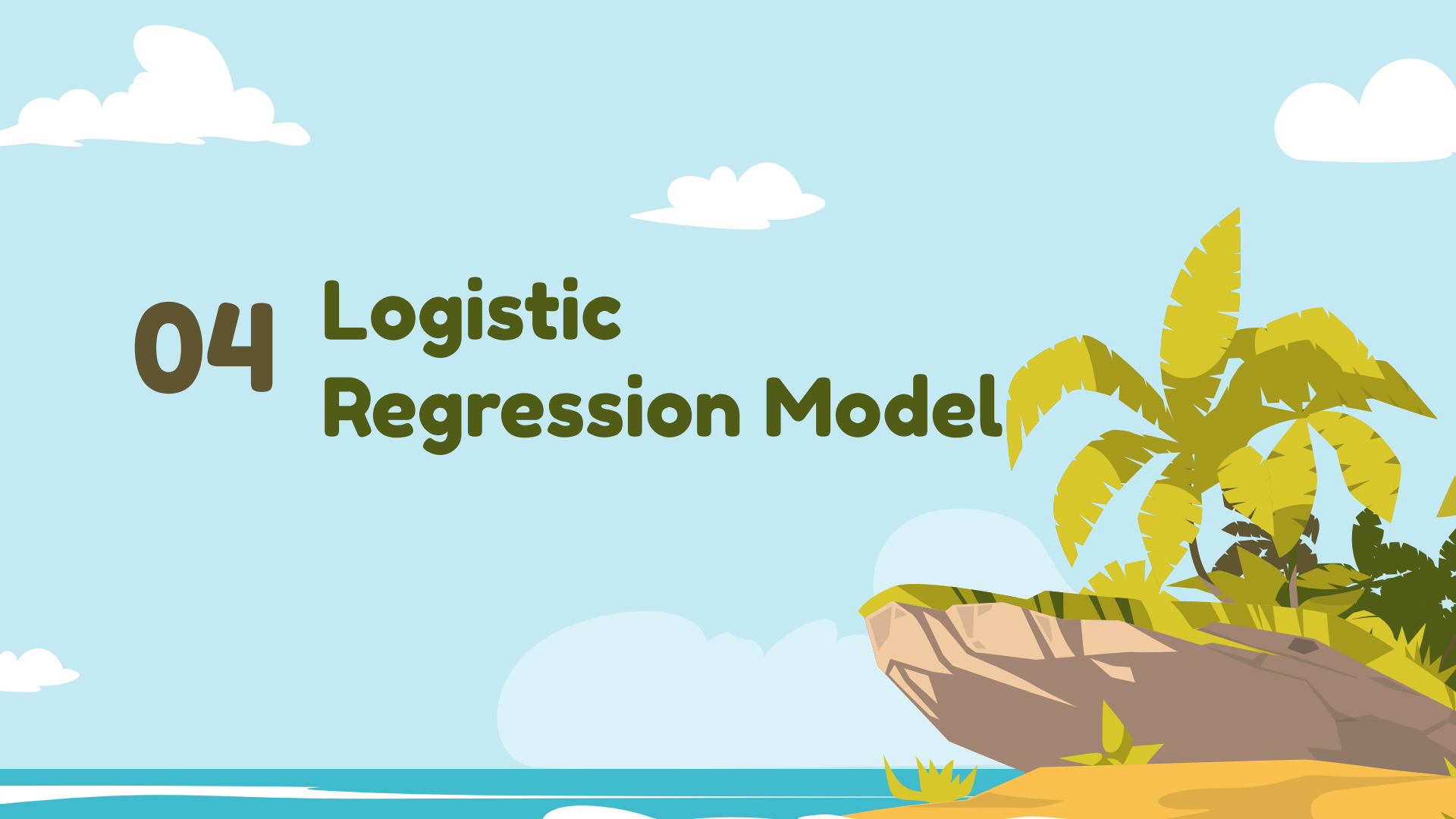


Personality Types





04 Logistic Regression Model



Age and Gender

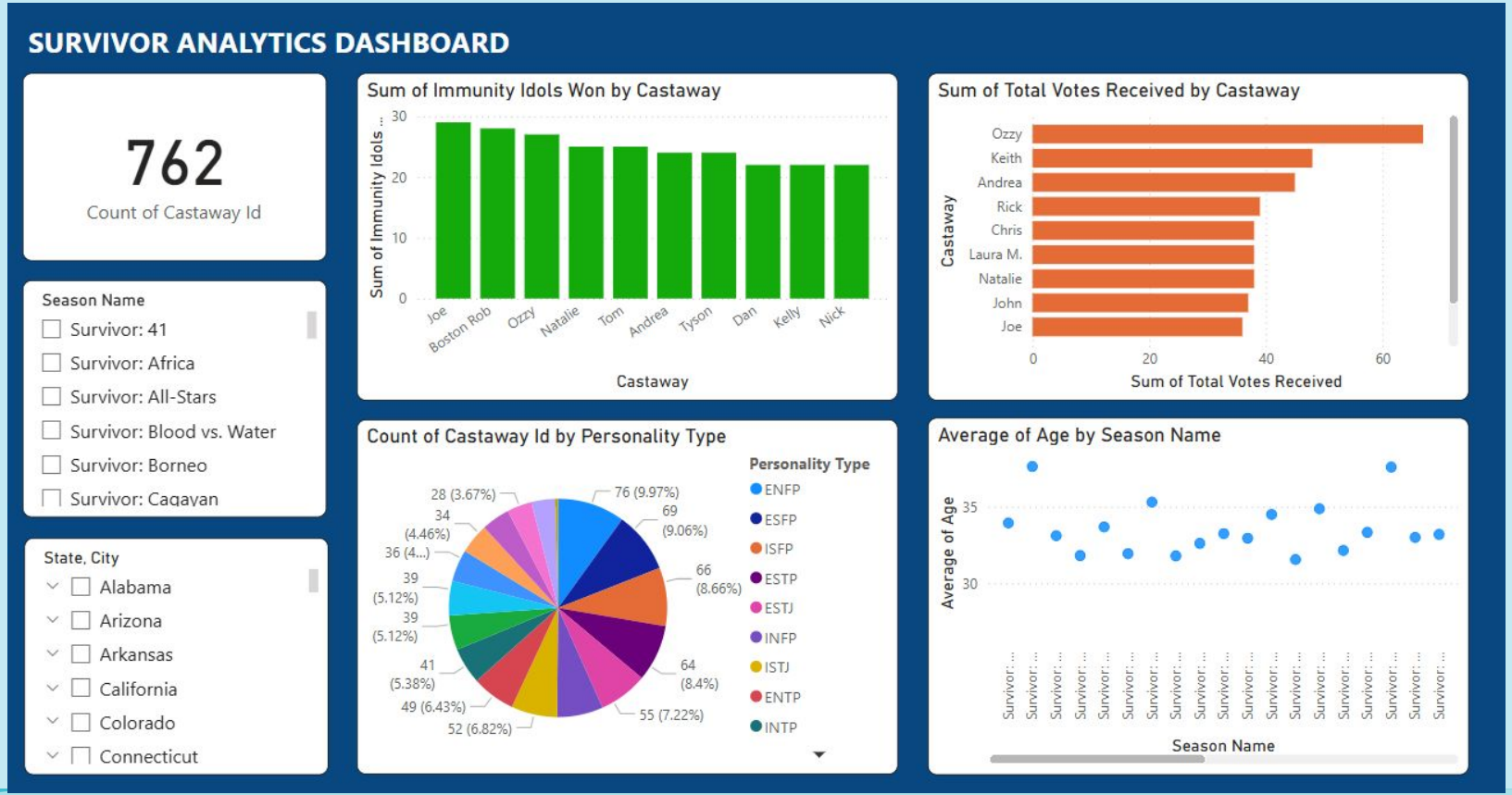
- **Purpose**
  - Predict the odds of becoming the Sole Survivor based on age and gender
- **Prediction Example**
  - Estimated odds of a 23-year-old male becoming the Sole Survivor

```
model = LogisticRegression()
model.fit(X_train, y_train)

y_pred = model.predict(X_test)
print("Classification Report:\n", classification_report(y_test, y_pred))

# Predicting the odds for a new individual
new_individual = pd.DataFrame({'Age': [23],
                               'Gender': [label_encoder.transform(['Male'])[0]]})
odds = model.predict_proba(new_individual)
odds_percentage = odds[0][1] * 100
```

```
                precision    recall  f1-score   support

           0       0.93      1.00      0.97       213
           1       0.00      0.00      0.00        15

    accuracy                           0.93       228
   macro avg       0.47      0.50      0.48       228
weighted avg       0.87      0.93      0.90       228

Odds of being the Sole Survivor: 5.93%
```

05 Dashboard

Dashboard


SURVIVOR ANALYTICS DASHBOARD
762
Count of Castaway Id
Season Name
Survivor: 41
Survivor: Africa
Survivor: All-Stars
Survivor: Blood vs. Water
Survivor: Borneo
Survivor: Cagayan
State, City
Alabama
Arizona
Arkansas
California
Colorado
Connecticut
Sum of Immunity Idols Won by Castaway
Sum of Immunity Idols ...
30
20
10
0
Joe
Boston Rob
Ozzy
Natalie
Tom
Andrea
Tyson
Dan
Kelly
Nick
Castaway
Sum of Total Votes Received by Castaway
Castaway
Ozzy
Keith
Andrea
Rick
Chris
Laura M.
Natalie
John
Joe
0
20
40
60
Sum of Total Votes Received
Count of Castaway Id by Personality Type
Personality Type
ENFP
ESFP
ISFP
ESTP
ESTJ
INFP
ISTJ
ENTP
INTP
76 (9.97%)
69 (9.06%)
66 (8.66%)
64 (8.4%)
55 (7.22%)
52 (6.82%)
49 (6.43%)
41 (5.38%)
39 (5.12%)
39 (5.12%)
36 (4...)
34 (4.46%)
28 (3.67%)
Average of Age by Season Name
Average of Age
35
30
Survivor: ...
Season Name

Thank you!