

SunStride

Business Analysis



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Overview



Business Understanding



Data Preparation



Modeling



Feature Analysis



Recommendations



Next Steps



Business Understanding

- **Cyclical Enrollment**
- **Non-refundable Deposits**
- **How to accurately predict student re-enrollment for next season?**



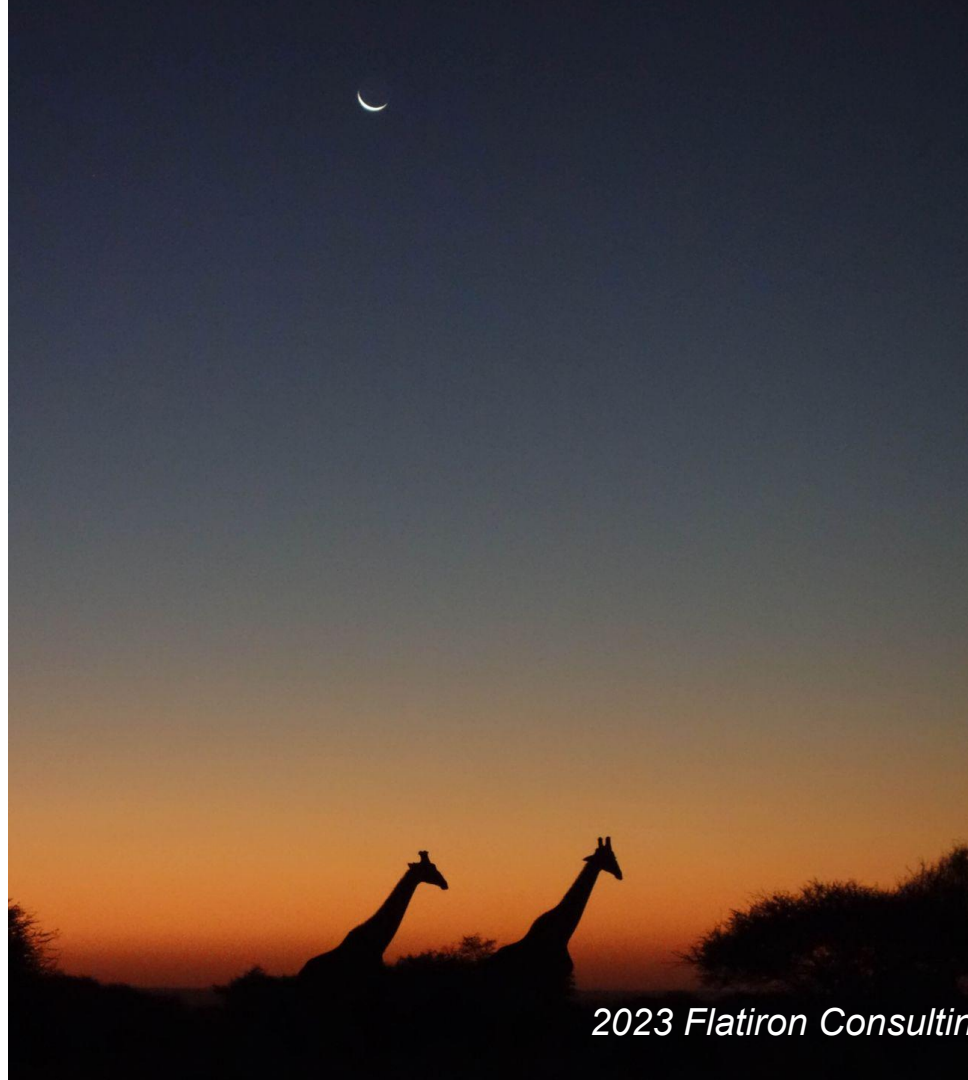
Data Preparation

- **2022 Summer Data**
- **1729 Records**
- **Demographic Information**
- **OneHotEncoding**

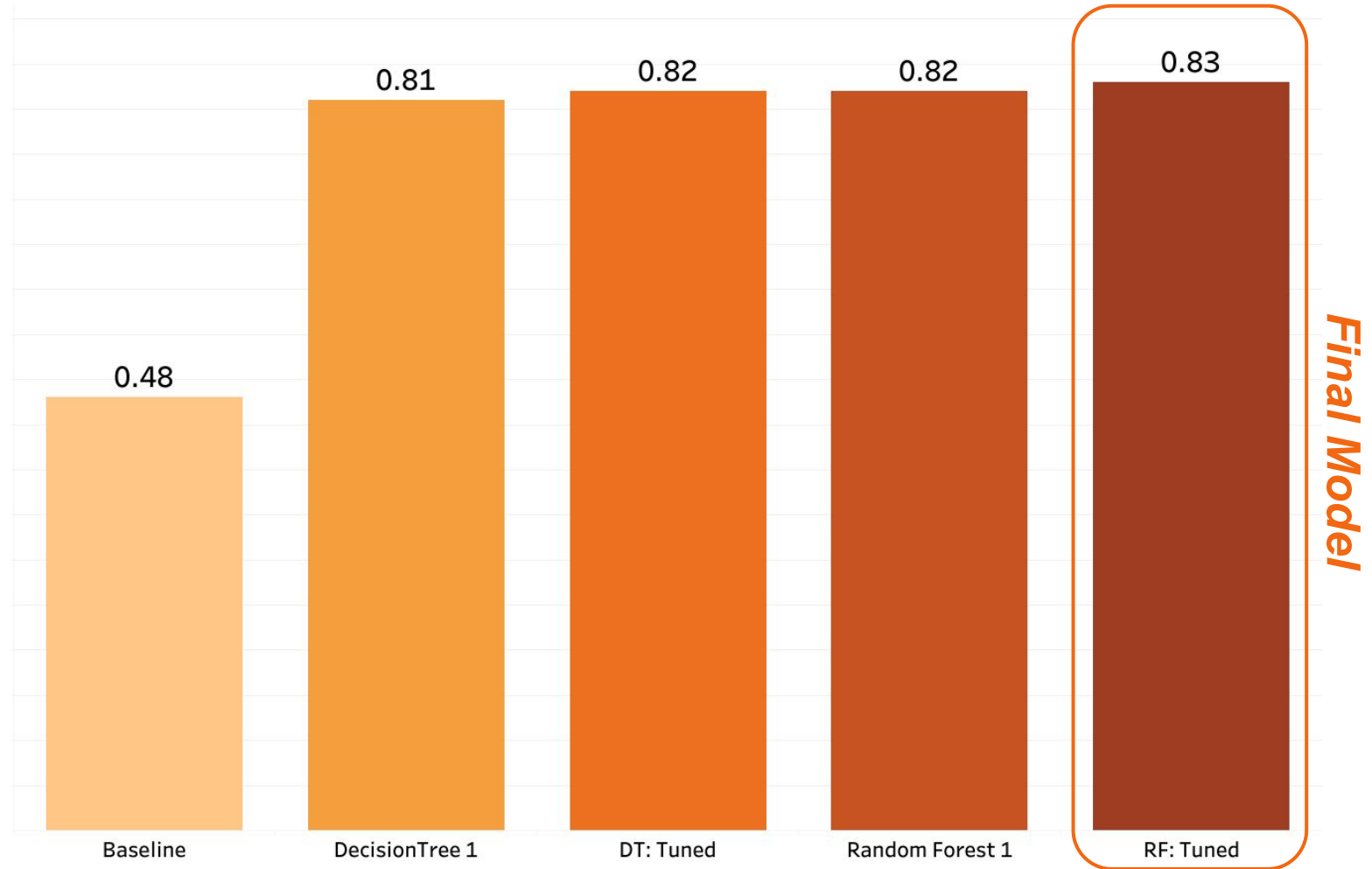


Modeling Approach

- **Why use a classifier?**
 - **DecisionTree & RandomForest**
- **Precision Score**
- **Modeling Performance**



Model Performance: Precision Score





Grid Searching

- **Addressing Overfitting**
- **Hyperparameter Tuning**
 - **max_depth**
 - **min_samples_leaf**
 - **n_estimators**

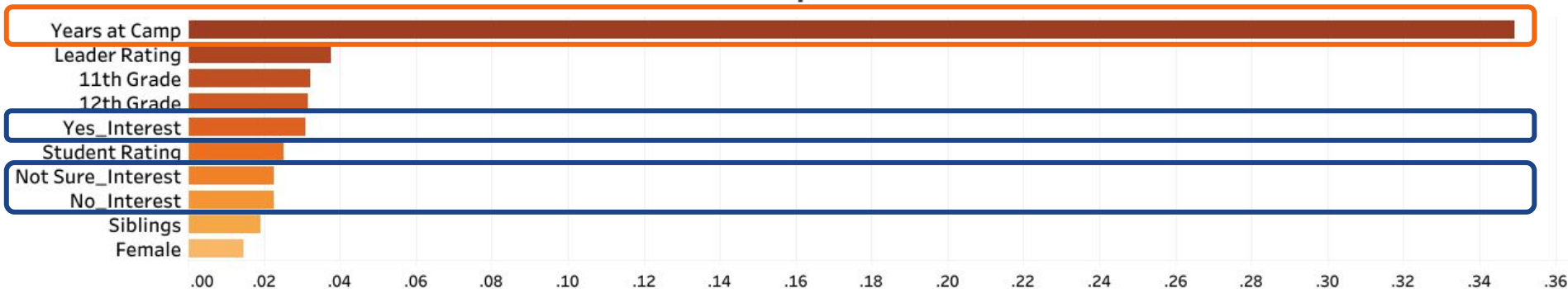




Critical Features

Years at Camp

Interest in another trip



Recommendations



Add trips for the youngest age students



Streamline the data gathering process



Incentivize students to return

Next Steps



New market analysis



Train model using previous years' data



Thank You!

