**Speaker Notes- Emmy Sobieski**

ML to look at what factors drove speed of loan funding

Binary vs multiclass

Sample part of data, then

Random Oversampling

Scaling

PCA showed evenly weighted dimensions

ML Models

Linear Regression - multiclass

Logistic Regression - binary

Random Forest – binary & multiclass

Support Vector Machines – binary & multiclass

Models:

#1 Logistic

#2 Random Forest, after tuning

**Precision** vs Recall (Sensitivity)

What we are looking for in our logistic regression model is the ability for a borrower to predict the likelihood their loan will fund un under 12 days, which is represented by y = 1.

We want to capture the highest percentage of true positives in the cases when it categorizes the result as 1, ie precision = True positives/ (All positives).

Recall or sensitivity represents capturing everyone who is positive at the expense of forecasting too many positives.

For 1 category, precision is 77%, recall is 73%, and f1 is 75%.

Average scores are the most balanced in this model at 69% precision, 69% recall, and 69% f1 which is showing a nice balance

Conclusion: Logistic Regression was the best model, but at 70% overall, there are likely drivers outside of the data we captured that explain the funding speed of a loan.

**Speaker Notes- Sravani Mylavarapu**

* Reason why topic was selected
  + Microlending from the borrower’s perspective
* Microloans description
  + Empowering entrepreneurs
* About Kiva.org and data sources
  + Kiva, Kaggle resources
* Hypothesis
  + How can loan success be determined using days needed to fund?
* Data exploration process for dashboard, ML, and database
  + Specific ways data was manipulated
* All technologies used
  + SQL for database and join
  + Python via jupyter notebook for majority of data analysis
  + JS and HTML for dashboard/website
  + Plotly library for visualizations
* Dashboard Elements:
* Visualizations such as sunburst chart and pie chart

**Speaker Notes- Sharon Karasick**

Dashboard and Website Demo:

* Go through individual pages on website
* About microlending
  + Explain word cloud significance
* Outliers page
  + Map and word clouds
  + 3 countries
* Dashboard components
  + Dropdown menu
  + Bubble chart explanation
  + Countries information
  + Concepts of charts featured in dashboard
* Microloans and project big picture explanation

**Speaker Notes -Omer Yildirim**

* Microloans description
  + Empowering entrepreneurs
  + This organization is doing
* About Kiva.org and data sources
  + Kiva, Kaggle resources
  + Sampling data
* Data visualizations
  + Google maps and charts to create stories page
  + Specific loan recipients with description
  + JS fiddle used to create the interactive map for JS/HTML