

# What do your words say about you?

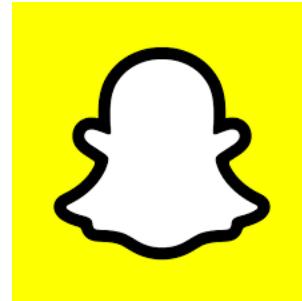
Age and Relationship Status Prediction With Artificial Intelligence

by Nadir Sarigul

# Business Problem

Social media is taking over the advertising world

- ▶ How to know who to advertise to?



So what is the problem?

Many social media platforms do not provide information about demographics making it hard to tailor the right product add to the right people

# Business Problem

Different demographics affect what products are of interest to each person

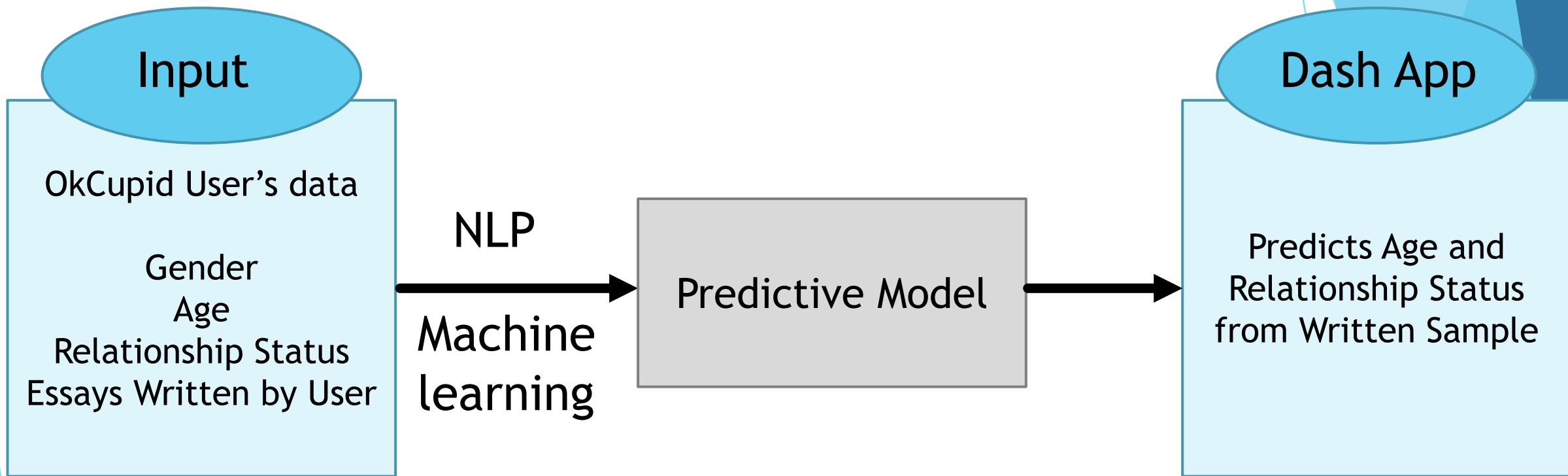
Important Demographic factors to consider:

- ▶ Age
- ▶ Gender
- ▶ Relationship Status

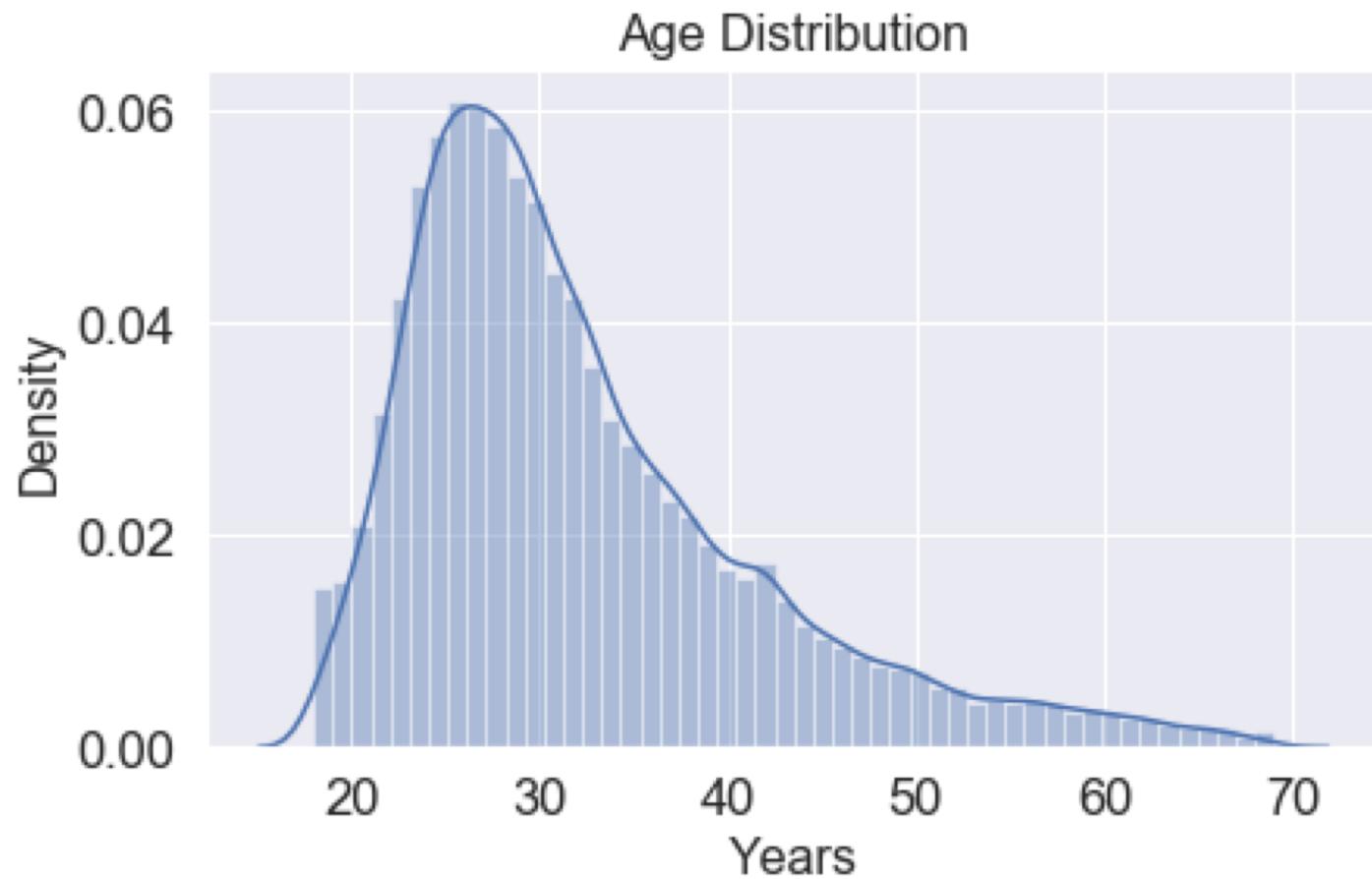


*Can we use artificial intelligence to solve this problem?*

# The solution

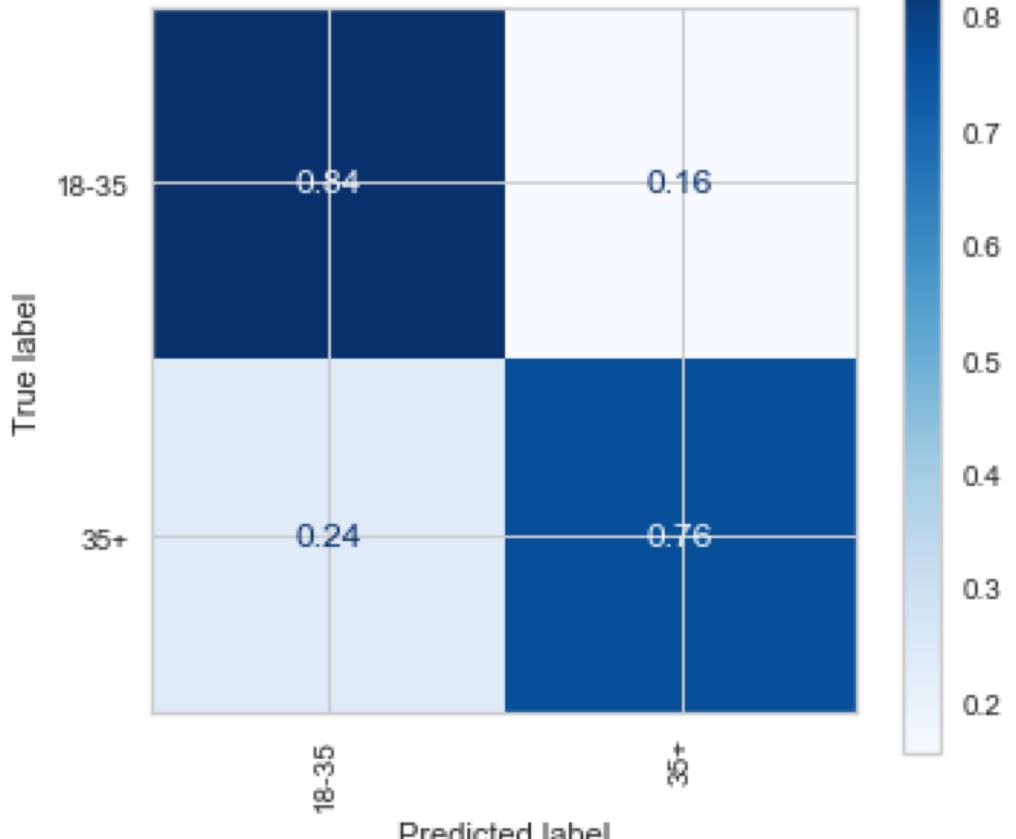


# Input Data - Age



# Does it work?

## ► Age



Model has 82% accuracy!

Predicts:

✓ 84% of 18-35 years old

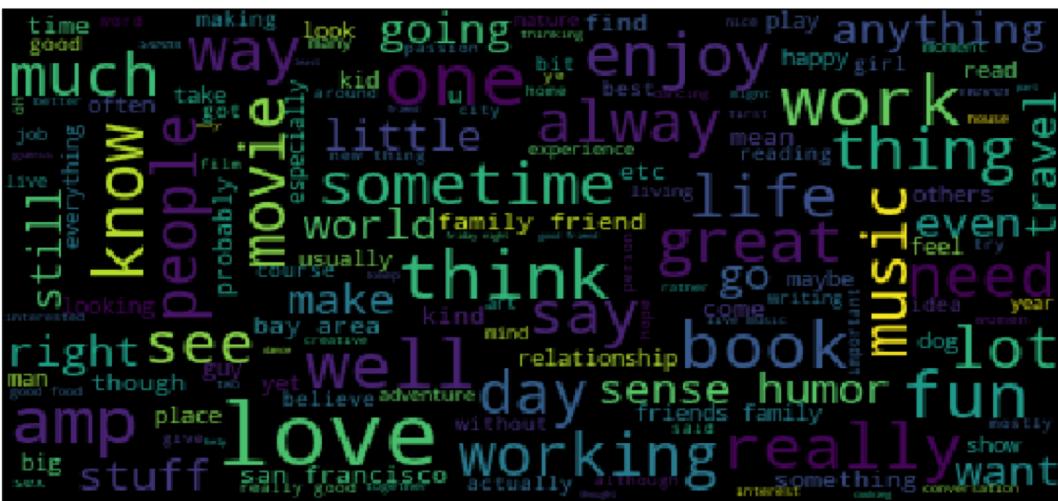
✓ 76% of 35+ years old

# Are the words different?

18-35 years

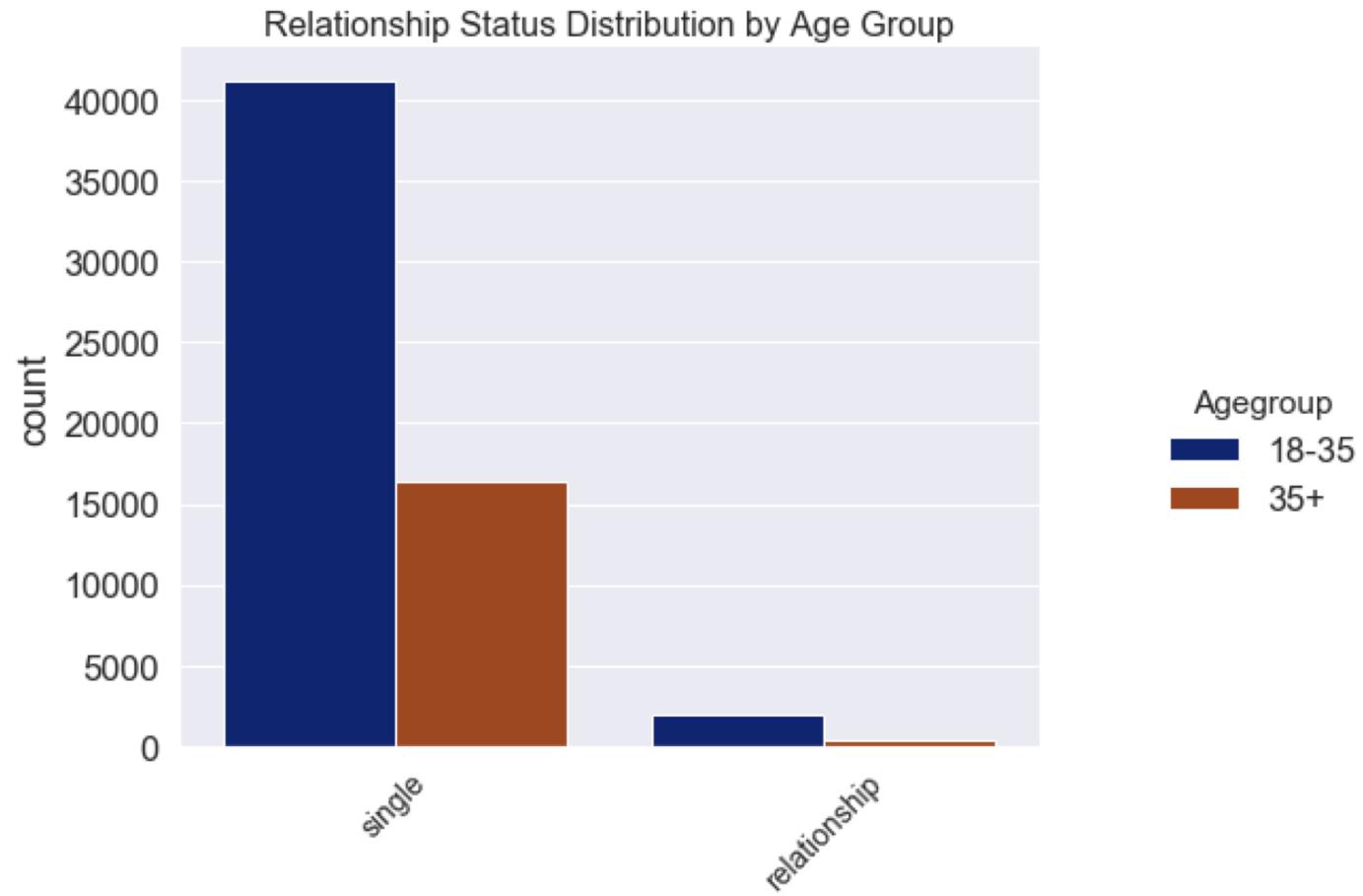


35+ years



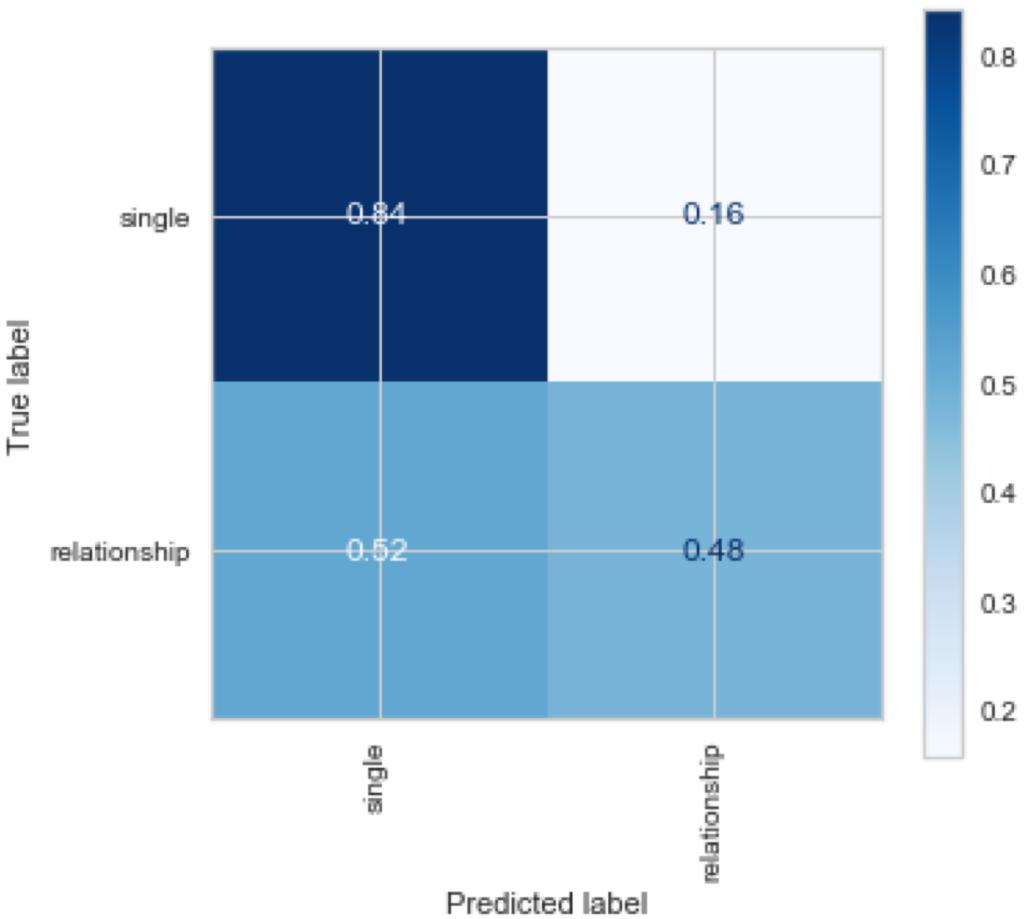
- Younger people seem to use the words family and friends more often
  - Older people seems to use words related to hobbies like fun, travel, music, movie

# Input Data - Relationship Status



# Does it work?

## ► Relationship Status



Model has 82% accuracy!

Predicts:

✓ 84% of single people

✓ 48% of people in relationships

# Are the words different?

## Single

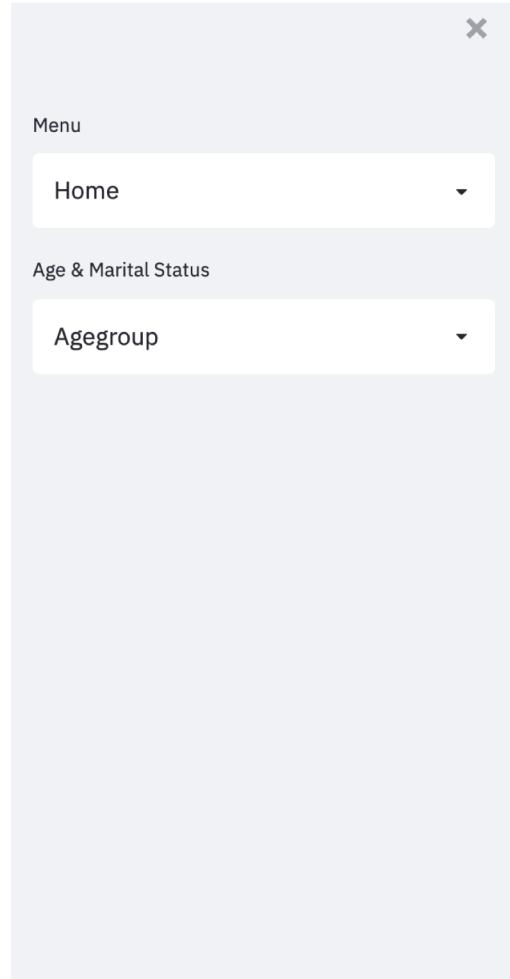


In Relationship



- Single people seem to use the words family and friends more often
  - People in relationships seems to use words related to hobbies like travel, music, food

# How does the app work?



## Text Analysis

write...

Paris is my favorite city

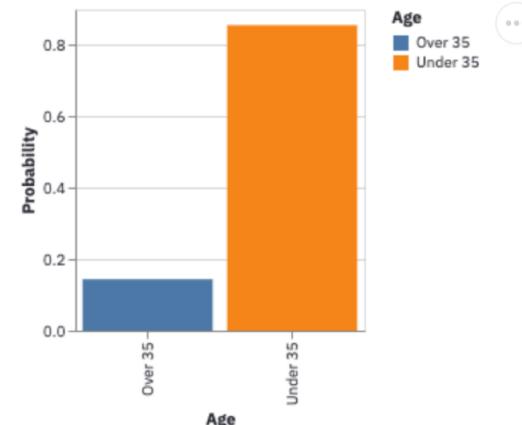
AgeStatus

Predict

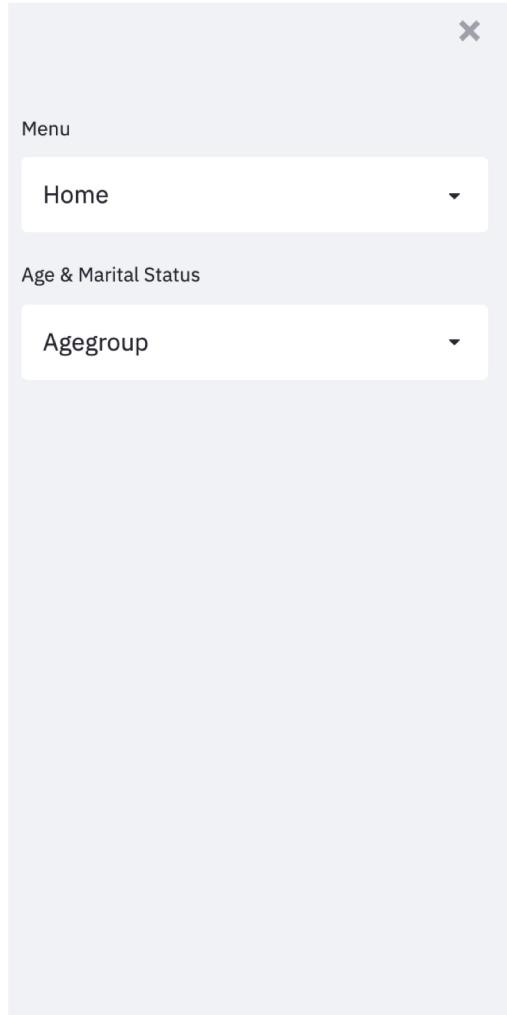
Prediction Prob

Under 35

Confidence: 0.8559285199051987



# How does the app work?



## Text Analysis

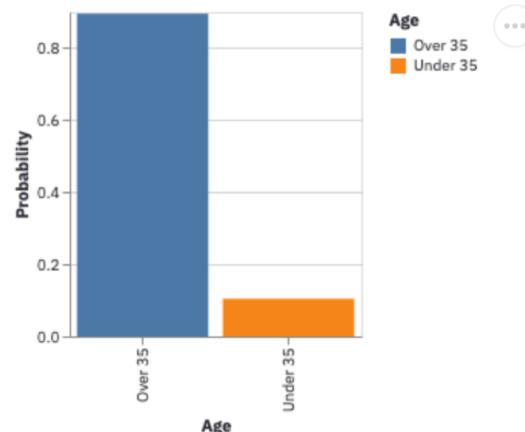
write...

I like long walks on the beach and red wine

**Age**      **Status**

**Predict**      **Prediction Prob**

Over 35  
Confidence: 0.8955144717663621



# Conclusions

- ▶ Specific words are associated with demographic factors such as age and relationship status
- ▶ It is possible to build artificial intelligence based models to predict demographic factors from text samples taken from social media

# Business Recommendations

- ▶ Integrate the model within each advertising company's tradition platform that scouts social media posts, comment, tweets, etc.
- ▶ Automatize the platform such that each individual user is automatically categorized onto specific demographics groups to streamline tailoring of product ads.

# Questions?

