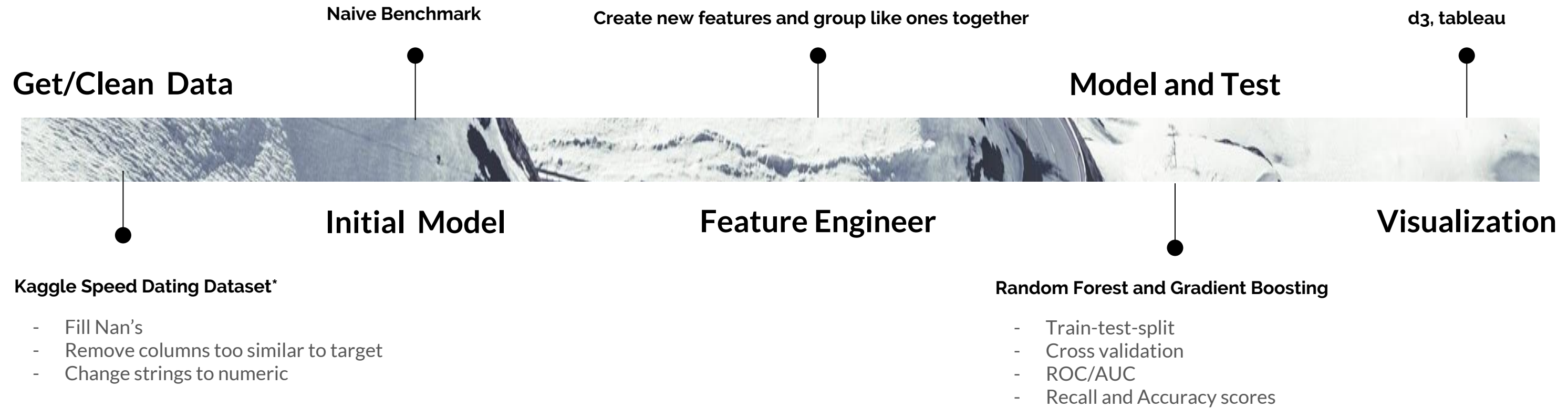




looks aren't everything but love, it would seem, is far from blind

... at least for men

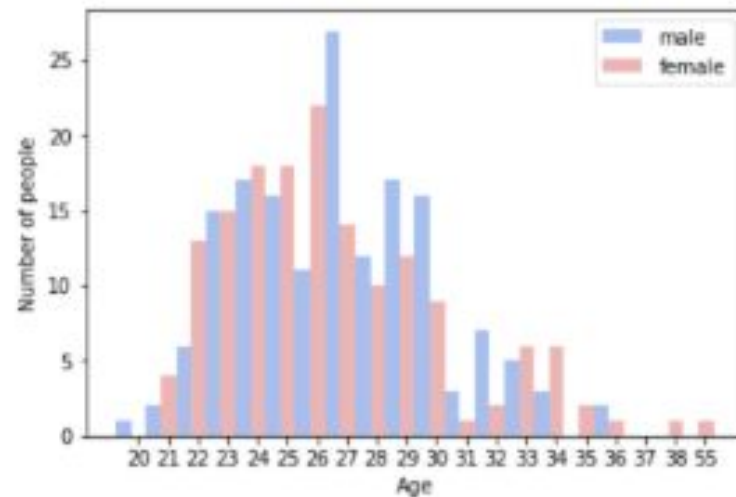
MODEL PIPELINE



DATA DETAILS

Demographics

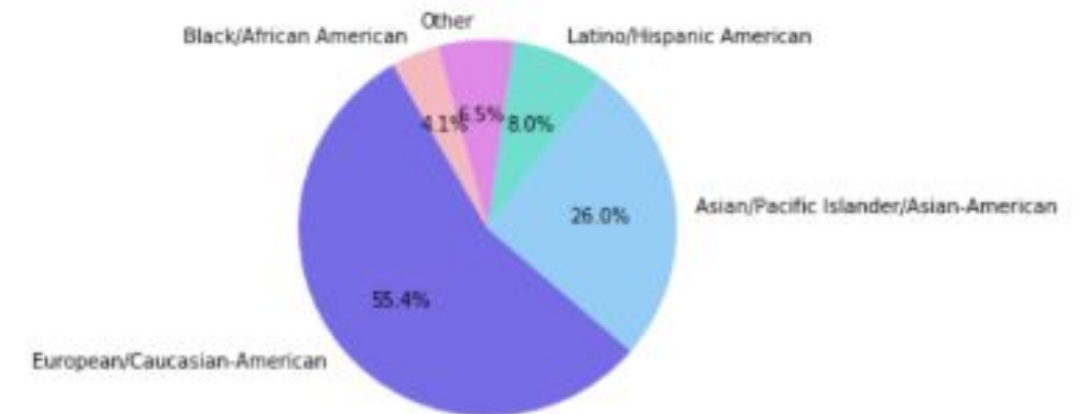
Millennial , Straight, and Predominantly White



Average Age of Daters: 26



274 women + 277 men



**Majority of Daters:
White and Asian**

TARGET & KEY ATTRIBUTES

Study Set-up

6 Key Attributes and 3 Surveys



21 waves, 4 mins each of men and women talking with each other and filling out scorecards as they go



6 Key Attributes
scores add to 100

fun
attractive
ambitious
intelligent
sincere
shared interests/hobbies

OBSERVATIONS: 8378 → 6805

FEATURES: 195 → 534

TARGET: Match (1) or no match (0) between partners

- Match Distribution
 - ❑ 16.4% match
 - ❑ 83.5% no match

DIFFERENT MOTIVATIONS

What is your primary goal in participating in this event?

1: seemed like a fun night out

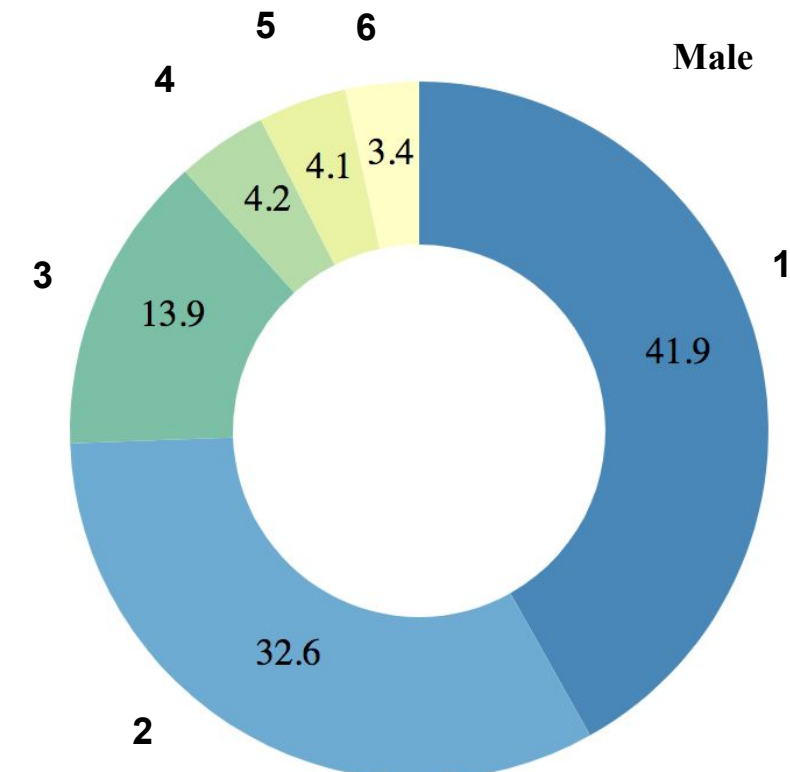
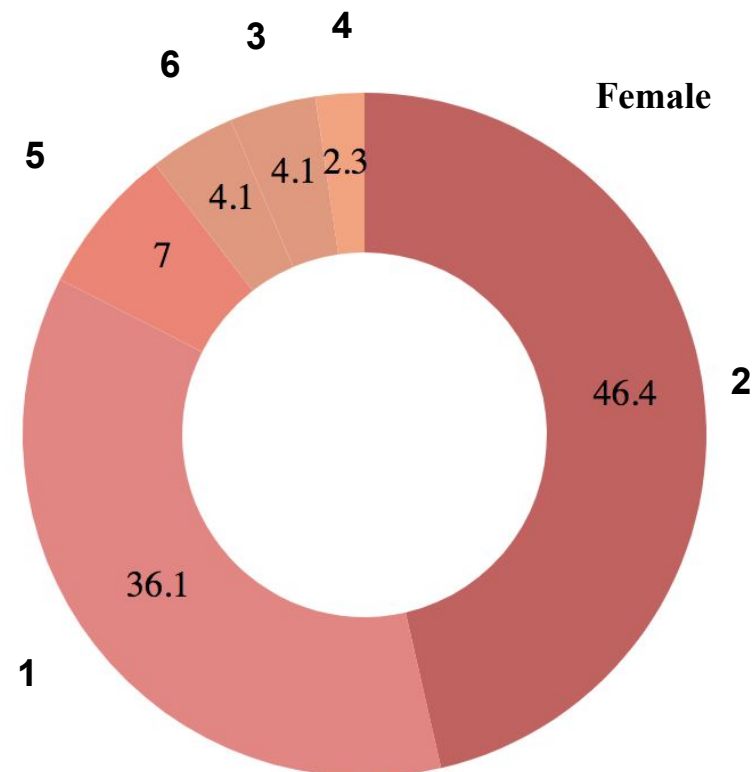
2: to meet new people

3. to get a date

4: looking for a serious relationship

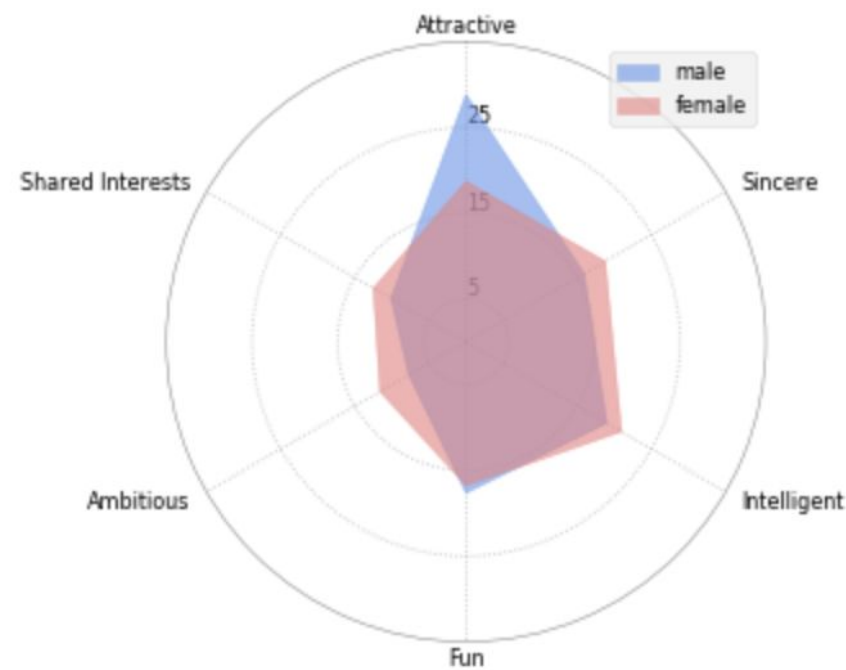
5: to say I did it

6. other



What do you look for in the opposite sex? (100 pts)

T1: What do you look for in the opposite sex?



Men: "I really hope she's hot and fun"

Women: "I want an all around good guy, preferably smart"

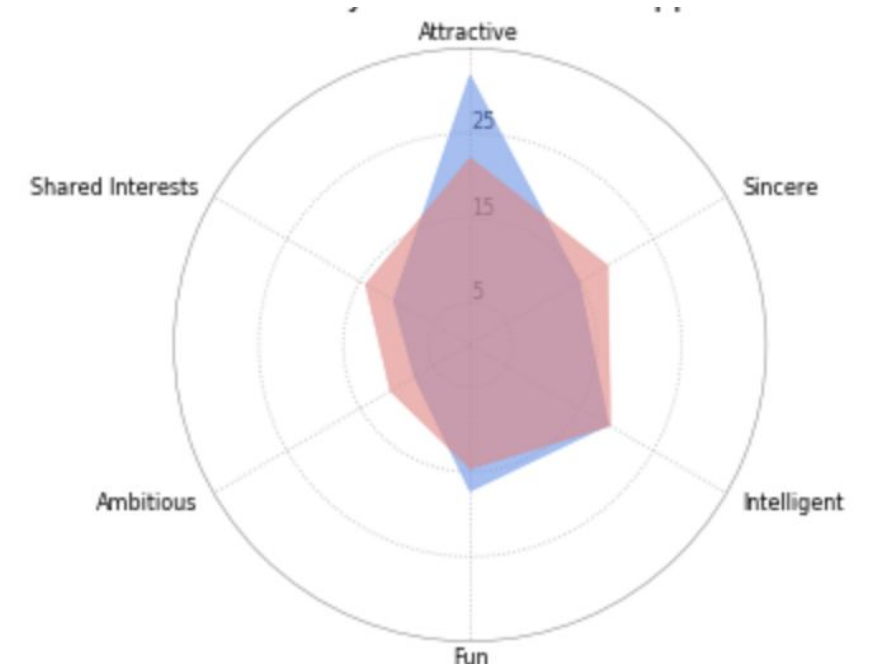
T2: What do you look for in the opposite sex?



Men: "I realllllyyyyy wanted my partners at that event to be hot"

Women: "Yeah, I guess looks mattered to me a little more than I thought"

T3: What do you look for in the opposite sex?

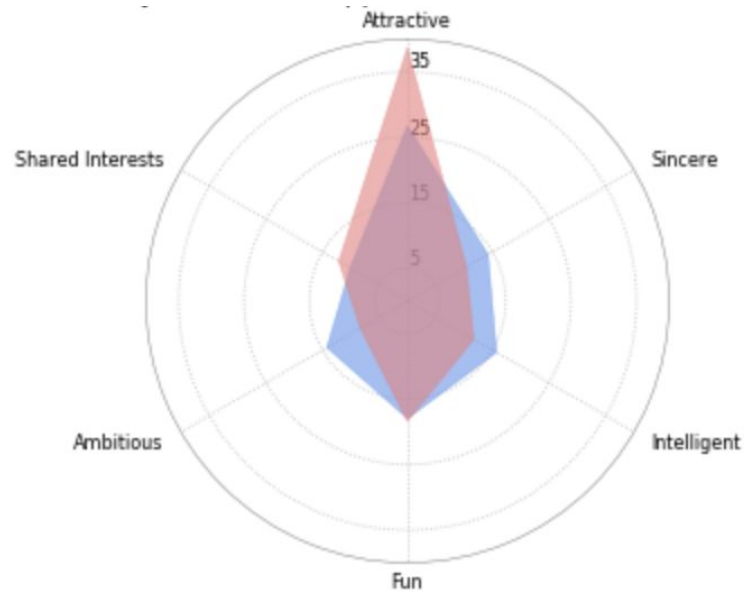


Men: "Yeah, nah I'm good with hot and fun"

Women: "A sincere, smart guy always wins out"

What do you think the opposite sex looks for in a date?

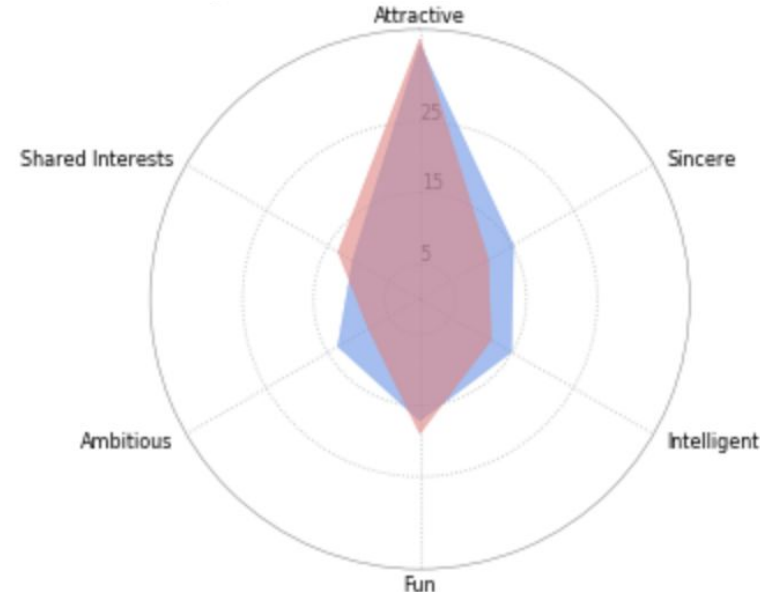
T1: What do you think the opposite sex looks for in a date?



Men: "Girls are in it for my looks"

Women: "I bet he wants me to be ambitious and smart. Looks also matter to him"

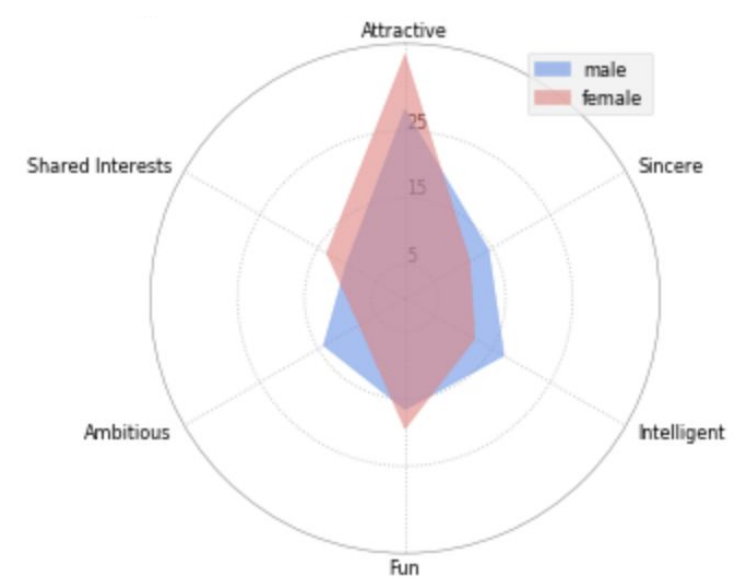
T2: What do you think the opposite sex looks for in a date?



Men: "She's looking for fun and good looking guys"

Women: "My looks matter a lot more than I thought"

T3: What do you think the opposite sex looks for in a date?

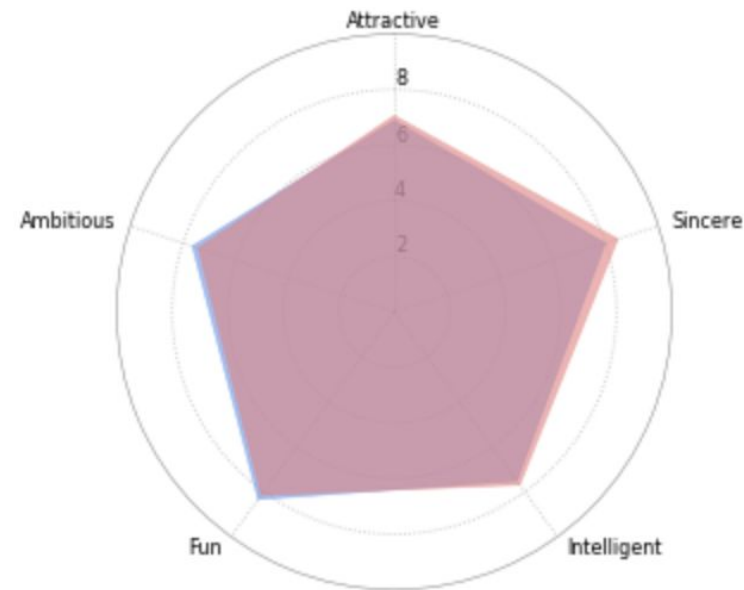


Men: "Maybe she wants me to be ambitious and smart too...:"

Women: "I think guys like well rounded girls too"

What are your opinions of your own attributes?

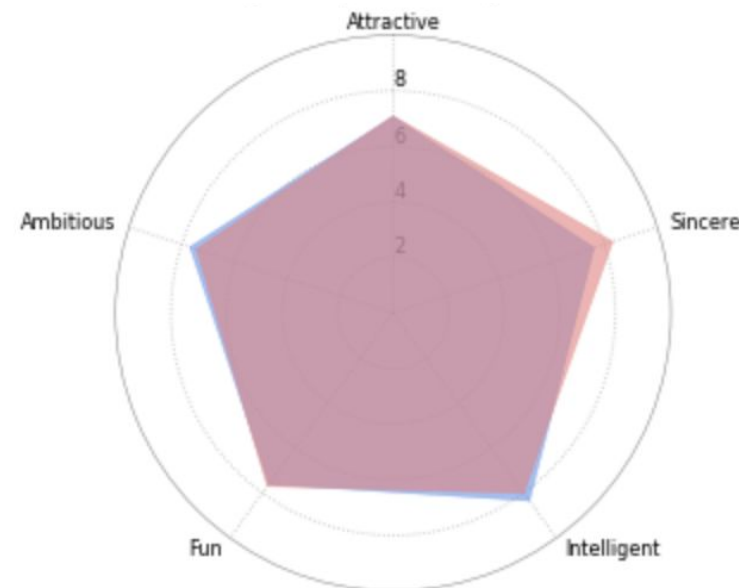
T1: What are your opinions of your own attributes?



Men: "I'm super well rounded"

Women: "I'm super well rounded"

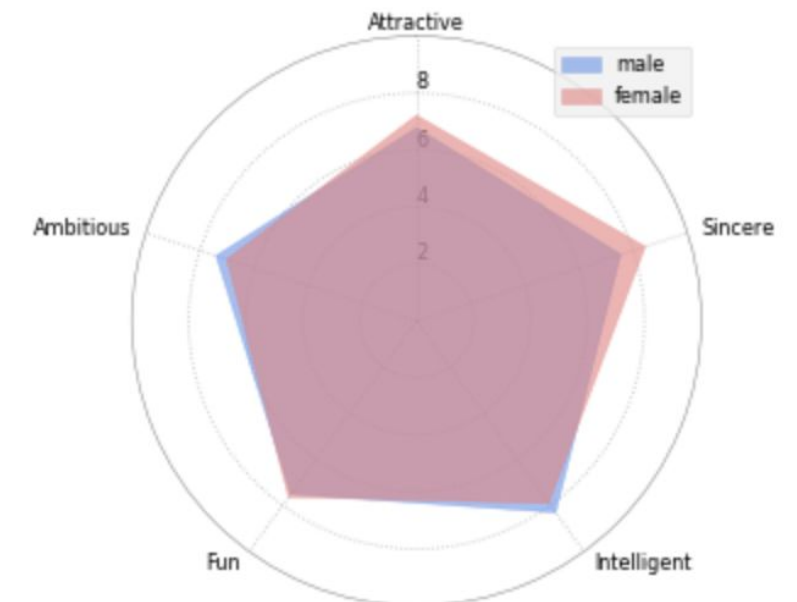
T1: What are your opinions of your own attributes?



Men: "Wow, I'm so well rounded"

Women: "Yeah, I'm killing the well rounded game"

T1: What are your opinions of your own attributes?

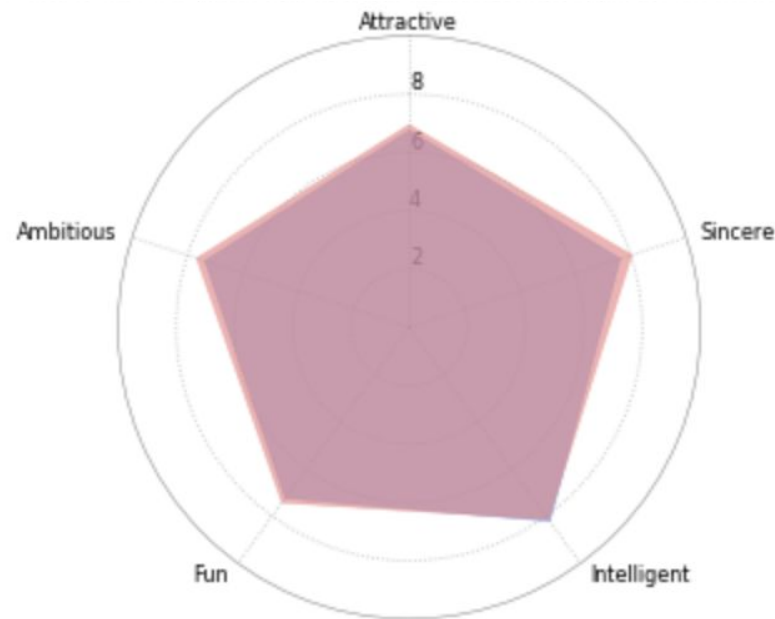


Men: "Still well rounded but less hot than I thought :("

Women: "Still well rounded but more sincere than I thought :) "

How do you think others perceive you?

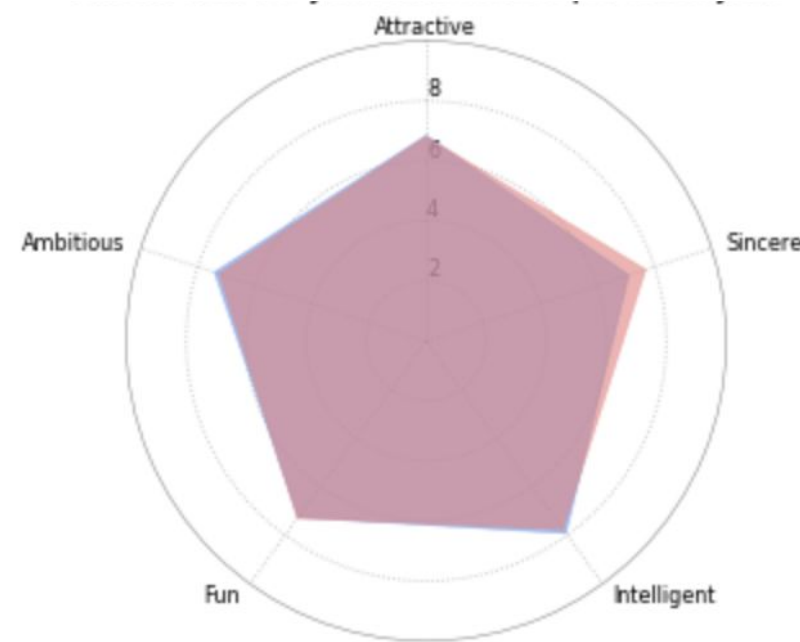
T1: How do you think others perceive you?



Men: "Girls will think I'm super well rounded"

Women: "Guys will think I'm super well rounded"

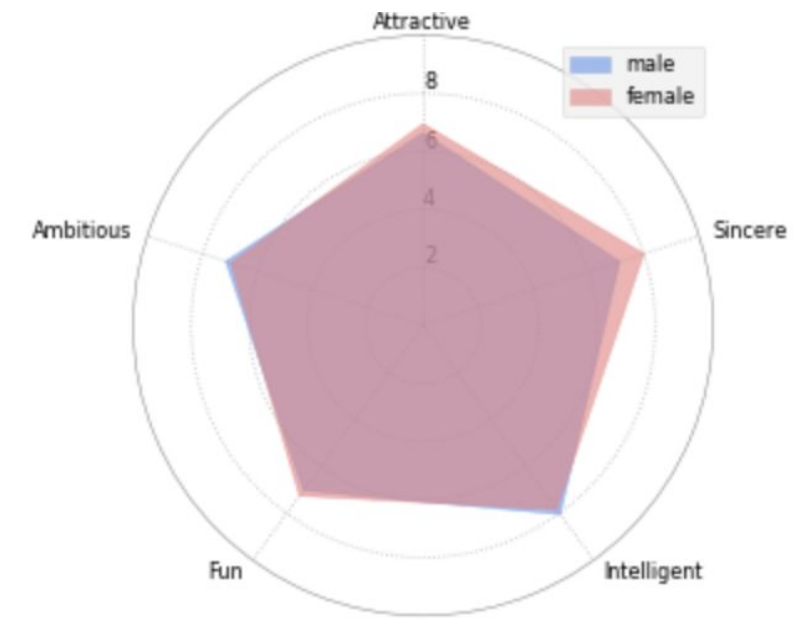
T2: How do you think others perceive you?



Men: "Yeah it's confirmed, they think I'm well rounded"

Women: "Guys think I'm well rounded and pretty sincere"

T3: How do you think others perceive you?



Men: "Yay, girls think I'm smart too!"

Women: "Guys think I'm really sincere!"

MODEL PERFORMANCE

Accuracy: percentage of correct matches out of all predicted matches

.....

Baseline Score (from f-score): 0.39

Feature Engineering:

- **Desirability Feature** (how desirable are you to a partner)
 - **Choosy Feature** (how choosy about a partner are you)
 - **Bucket features** ('from', 'career', 'undergrad school')
 - Geographic Regions (New England, China, India, UK, New York)
 - 6 categories (Education, Law, Medicine, Business, Science, Politics)
 - Columbia vs. other top schools
 - Zip code similarities in where people grew up
-

Random Forest

97% accuracy on training set

82% on validation set

XGBoost (max_depth=4)

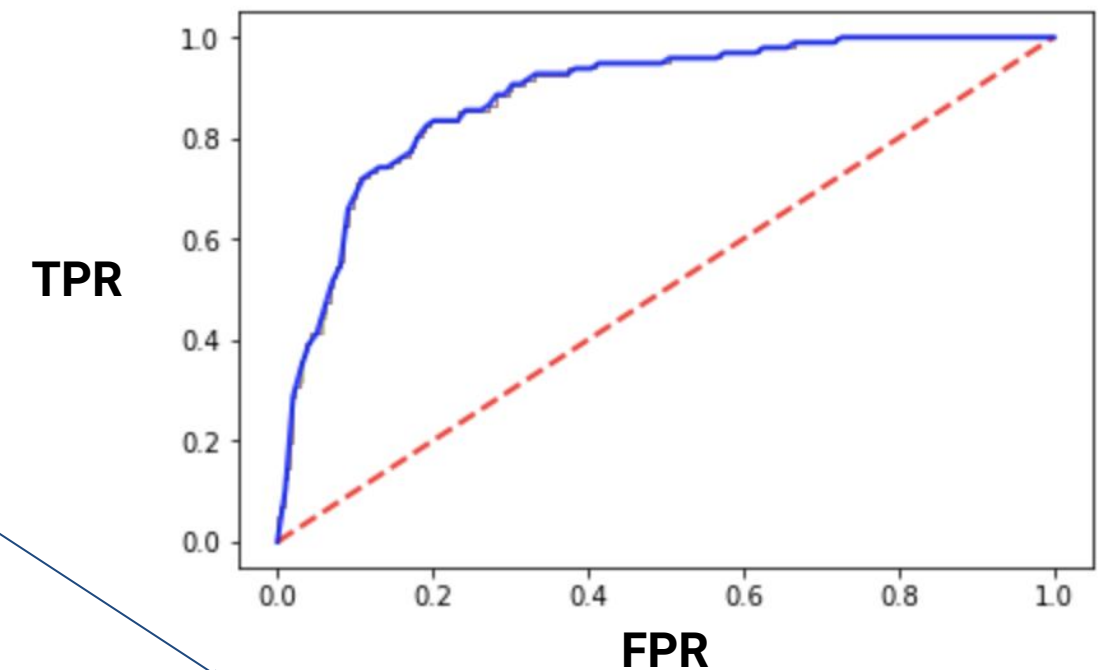
88% accuracy on training set (70%)

86% accuracy on validation set (20%)

85% accuracy on holdout set (10%)

Stratified Kfold (splits=5)

ROC Curve (mean AUC=0.88)



Top features by 'gain' in XGB

desirability: 29.724

choosiness: 25.355



MODEL PERFORMANCE

Recall: percentage of actual matches that the model caught

Precision: out of all predicted matches, how often was model right

→ cost of false positive vs. false negative

→ some of model's predicted matches will be wrong

F-beta (beta=1.5): weighted mean between precision and recall, favors recall

$$F_{\beta} = (1 + \beta^2) \cdot \frac{\text{precision} \cdot \text{recall}}{(\beta^2 \cdot \text{precision}) + \text{recall}}$$

Random Forest

Recall Score: 0.75

F-beta Score: 0.39 → 0.79

XGBoost

Recall Score: 0.31

F-beta Score: 0.39 → 0.37

DEMO: Will Kanye get a date?



Questions?

