



Can Anyone Hear Me?

A Twitter Recommendation Engine

Creating more inclusive
social spaces

Alex Brooks

The Attention Economy





6,000

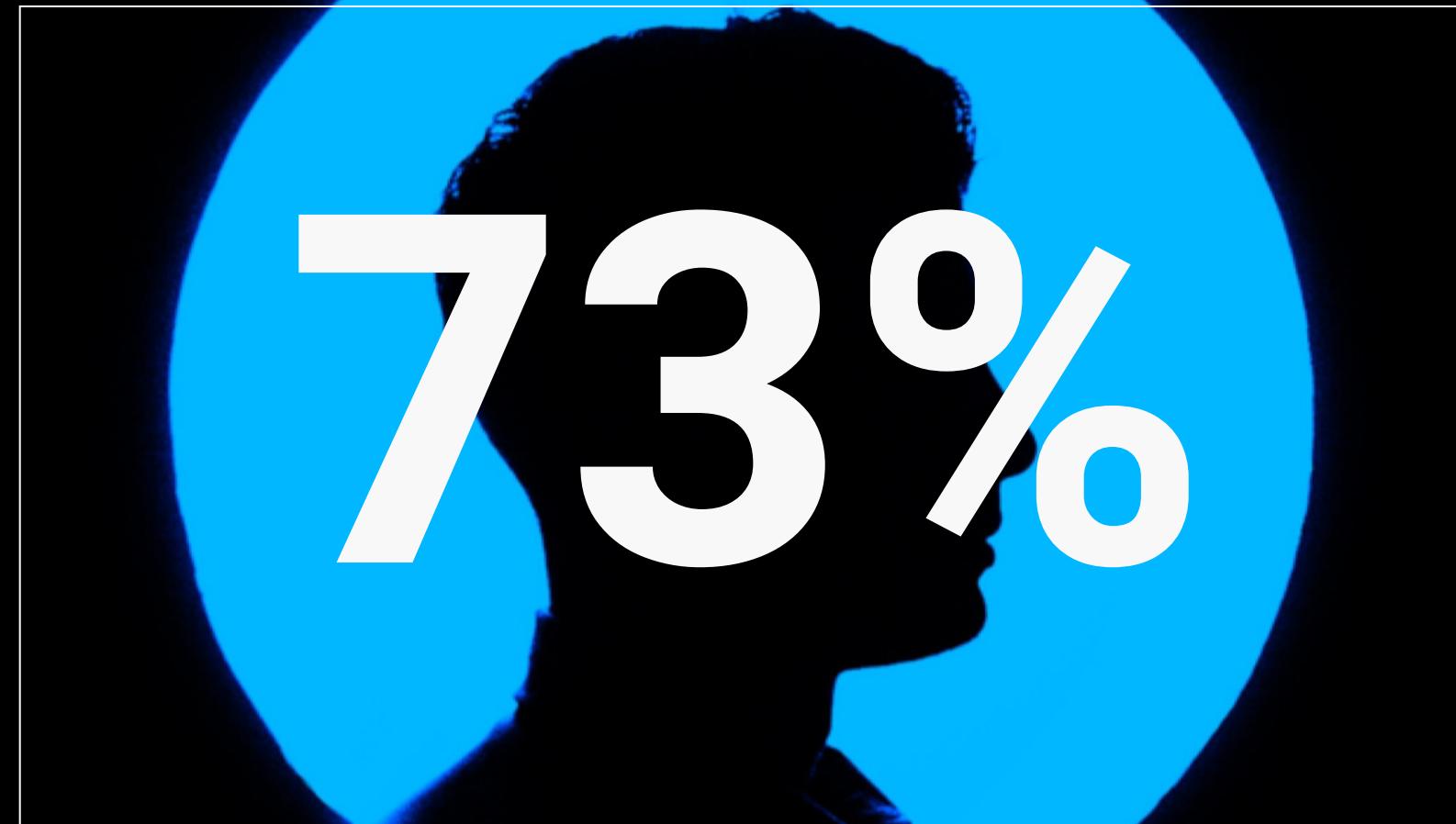
Tweets are tweeted on
Twitter every second.

via: [Brandwatch](#)



of the public uses some type
of social media.

via: [Pew Research Center](#)



of Gen Z (18-22 year olds),
report "sometimes" or
"always" feeling alone.

via: [Cigna Corp](#)

AIMS & OBJECTIVES

Create a content-based recommender system using Tweets that a user has favorited only.

- Topic modeling
- Sentiment analysis
- Dimensionality reduction / clustering
- Personality classification

The goal is to create interpersonal connections without saturation of original content from a user.



PROCESS & TOOLS

Data Wrangling

Data Cleaning & Text Preprocessing

NLP Modeling

Personality Classification

Recommender System

Dashboard Development



Google Cloud Platform

Tweepy

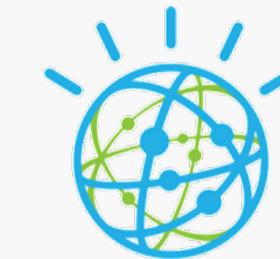
pandas

$$y_{it} = \beta' x_{it} + \mu_i + \epsilon_{it}$$



NLTK

Natural Language Toolkit

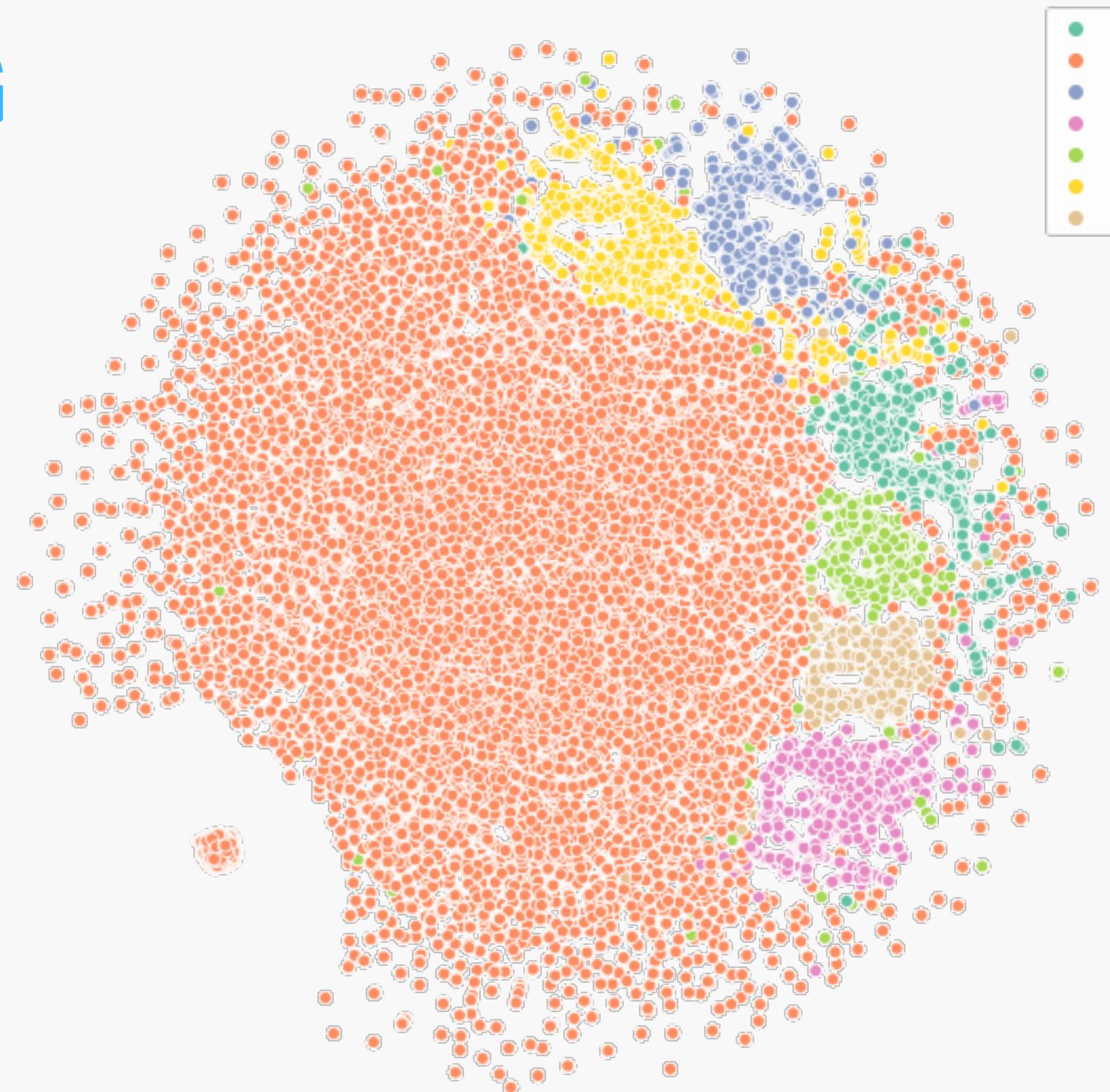


IBM Watson



TOPIC MODELING

UMAP Projection of Tweets

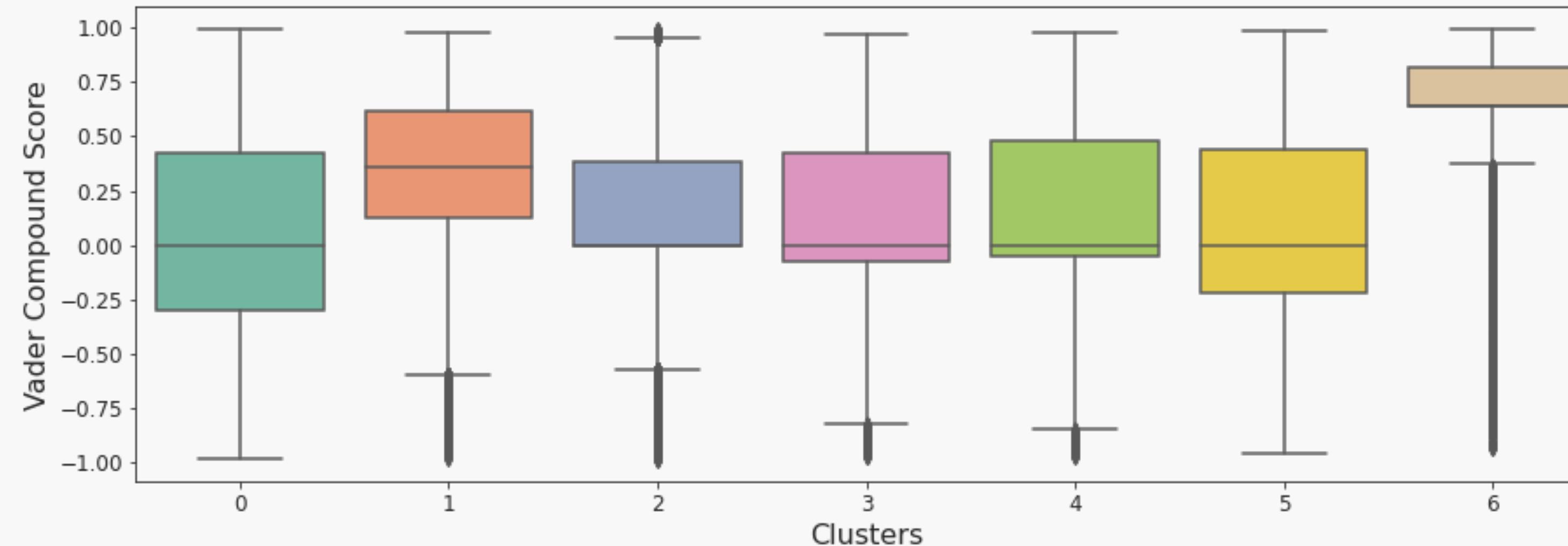


- Topic 0 - Dating
- Topic 1 - Current status
- Topic 2 - Nostalgia
- Topic 3 - Grievances
- Topic 4 - Positivity
- Topic 5 - Black Twitter
- Topic 6 - Gratitude

Topics derived from NMF are indicative of the various moods as well as the Twitter "communities" present within my ego network.

SENTIMENT DISTRIBUTION

- Derivation of sentiment using Vader
- Segmentation of sentiment by cluster (topic)
- Attribution of sentiment per topic per user





Openness
Conscientiousness
Extraversion
Agreeableness
Emotional Range

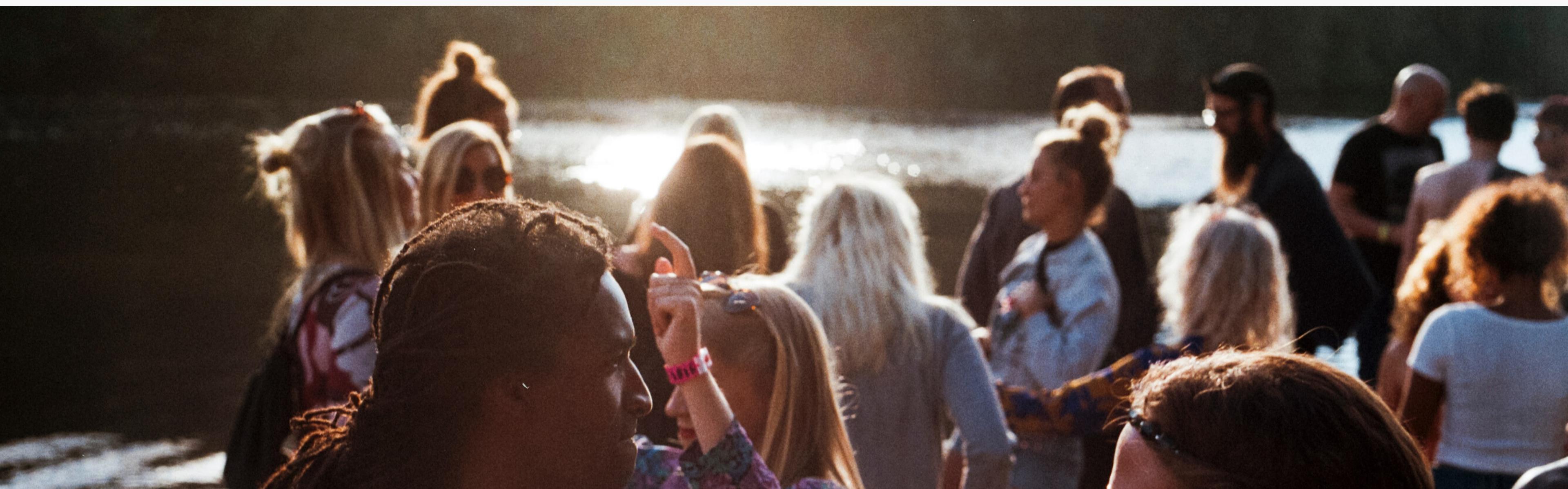
CLASSIFICATION OF PERSONA

FIND YOUR TRIBE.

[Click here](#)

FUTURE WORK

- Model relationships using a network graph. Improve recommender by using a community detection algorithm.
- Expand network beyond first-degree connections.
- Expand app design: conversation starters, example tweets from each user, etc.

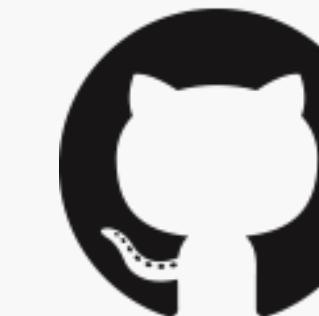


**In the social jungle of human
existence, there is no feeling
of being alive without a
sense of identity.**

– Erik Erikson



THANK YOU



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