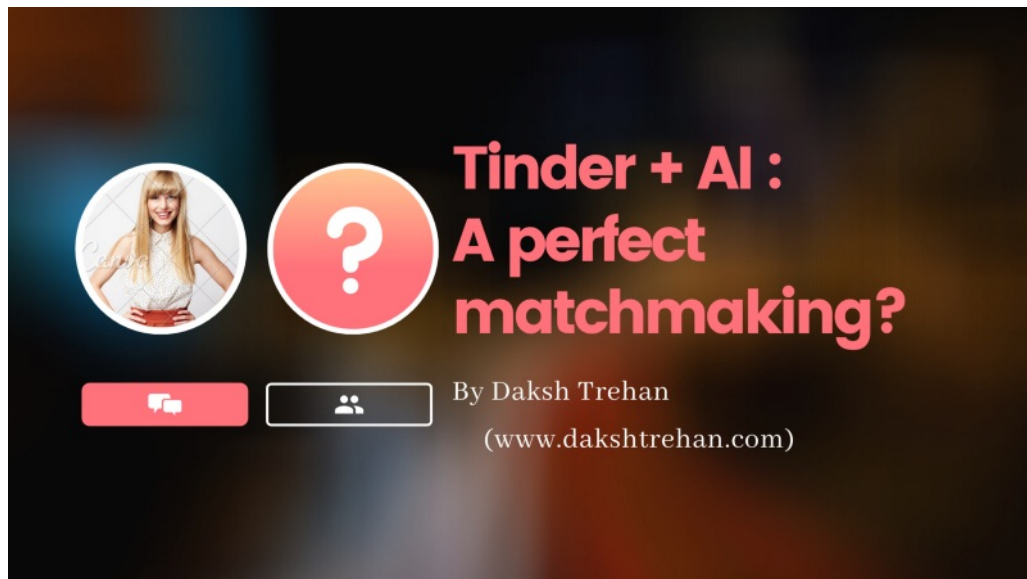# Tinder + AI: A Perfect Matchmaking?

Describing a progressive recommendation system used by Tinder to get you a perfect match!

"Bored in the house, in the house I'm bored", Official Tinder theme song!

Content Table:-

What is Tinder?

Tinder is a mobile dating app that can help you find singles in the local area. "**Swipe right if you like her, Swipe left if you don't**" is a linchpin to the company's success, and the format has been duplicated by numerous contemporaries.

Tinder was first launched as a location-based dating app in 2012 within incubator **Hatch Labs** and join a venture between **IAC and Xtreme Labs** and now it's one of the most popular dating apps in the US with about *1.7 Billion swipes per day*. Tinder has employed the *freemium* business model to earn revenue.

How it affected the Dating world?

It went from a "*location-based*" dating app to a global dating app that is present in 190+ countries in less than 8 years. Comparing to adversaries, the motive of Tinder is not to entertain but to help you get your love life.
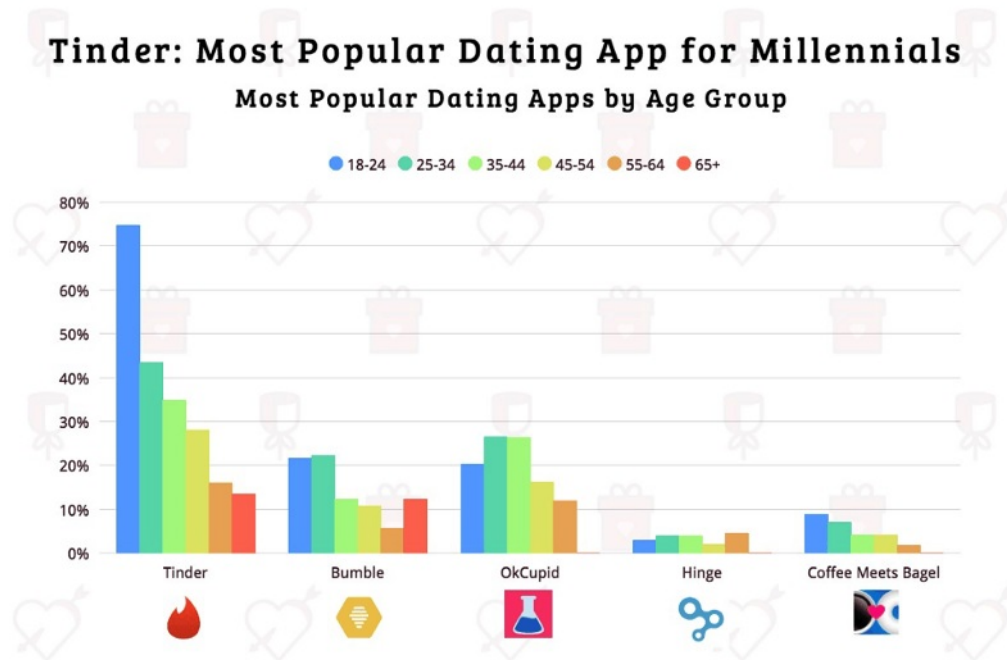
Tinder user segregation, SimpleTexting

Tinder is used by **57 Million users** and that doesn't make it one of the most used dating apps. And yet there is something in particular about Tinder that causes it to feel like the characterizing application of the online dating era. In the western world at least—the Tinder seems to be consistent by all accounts humming endlessly out of sight, wherever you go. Its gamified style, flawlessness for easy access, and its legitimate straightforwardness maybe go a portion of the best approach to clarifying its runaway achievement.

- Tinder users go on one million dates per week and over **20 Billion matches** have been made since Tinder was launched.
- Active Tinder users log in on average **four times a day.**
- **95%** of Tinder users meet their matches within a week, who thought it would be so easy to secure a date?
- The year 2017 experienced **more couples that met online rather than offline.**

Top Grossing Apps Worldwide for February 2020 (Non-Game) — SensorTower

	Overall Revenue		App Store Revenue		Google Play Revenue
1	Tinder	1	YouTube	1	Google One
2	YouTube	2	Tinder	2	Tinder
3	TikTok	3	TikTok	3	Pandora
4	Netflix	4	Netflix	4	Disney+
5	Tencent Video	5	Tencent Video	5	BIGO LIVE
6	Disney+	6	iQIYI	6	Azar
7	iQIYI	7	Disney+	7	LINE
8	Google One	8	Youku	8	Twitch
9	Pandora	9	Pandora	9	LINE Manga
10	Youku	10	Kuaishou	10	Facebook

Note: Does not include revenue from third-party Android stores in China or other regions.

SensorTower Data That Drives App Growth — sensortower.com

Tinder is the top-grossing app for Feb 2020, SensorTower

Talking about numbers, Tinder is estimated to be worth **$10 billion**, its revenue stood at **$1.15 billion** in 2019; **56%** of total Match Group's(Parent company)revenue of **$2.05 billion**. Tinder revenue grew enormously at a **CAGR of 123%** between 2015 and 2019.
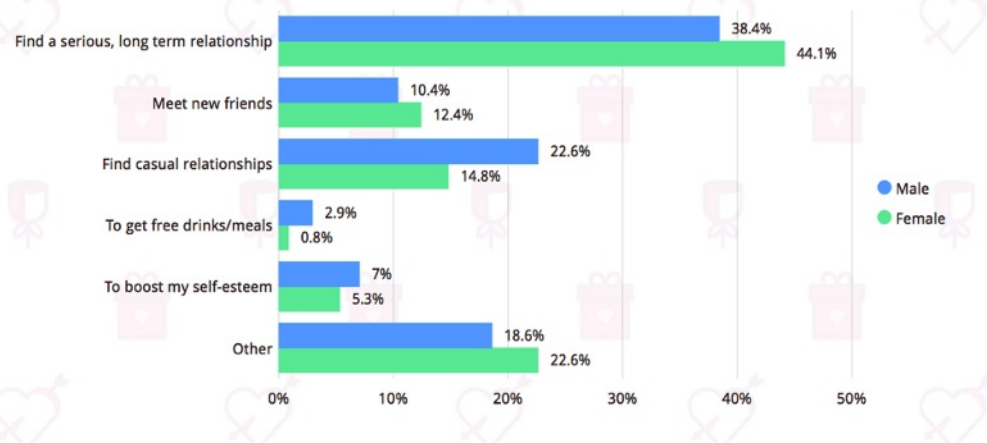
Tinder has edged out Netflix and became the highest-grossing global non-gaming app in 2019. According to Sensor Tower, it has maintained that feat as of February 2020. The figures are set at **$77.4 million**, 42% of which was from the US, 7% from the UK, and 5% from Germany.

Match Group market cap **$18.6 billion** as of late March 2020

What users are expecting from Tinder?

Most Dating Apps Users Are Looking for Long Term Relationships

When using a dating app, what are you hoping to achieve?

	Male	Female
Find a serious, long term relationship	38.4%	44.1%
Meet new friends	10.4%	12.4%
Find casual relationships	22.6%	14.8%
To get free drinks/meals	2.9%	0.8%
To boost my self-esteem	7%	5.3%
Other	18.6%	22.6%

What do you want? SimpleTexting

According to the *SimpleTexting* survey, looking for a serious, long-term relationship was by far the most preferred choice for netizens. A small ratio of men and women conveyed they were looking for friends, while others use the app to boost their self-esteem.

Possible Tinder Recommendation System

There is no confirmed workflow for Tinder's algorithm, these algorithms powering such platforms are proprietary and the company is least interested in dishing out the private details of their execution but based on the data posted by the company, and trails found by nerds. I made up the accompanying determination.

Your Tinder matches rely heavily on your data, based on your profile an "*ELO*" score is calculated that more or less defines the quality and quantity of your matches, from suggesting a sugar daddies to a lame hombre, it decides your fate. You rose in the ranks based on the numbers of right swipes you get, and also right swiper. The more right swipes that person had, the more their right swipe on you meant for your score.

Tinder would then recommend people with the same score, assuming that people with similar opinions would be in approximately the same tier compatibility.

Your desirability a.k.a "*ELO*" score is heavily dependent on:

Quality of Profile

This is the most important to determine the ELO score. Sometimes it is insurmountable and can debilitate your match. But it depends on your bio, photos, and, settings you've chosen.

[Source](#)

When you post some of your photos, the images are passed through their Machine learning servers which can easily define your preferences

and choices.

Computer Vision in operation

Using Several object detection techniques, it can observe your interests,
for illustration, if you put display pic of you on a bike enjoying in nature,
the algorithm will feed that you like bikes and nature, now, you're profile
would be surged to girls with whom you share something common.

Similarly, when you put on a bio, the expressions are conveyed to the
NLP system that can detect sentiments of your first impressions as well
can find your traits.

NLP in operation

Apart from this, your tweaked settings can also contribute to enhancing your profile. The more distance you opt for, the more in exploration state you're, the less distance you opt for, the more serious and safe relation you want.

Tinder also records your **Left/Right swipe ratio**, if you're profile's ratio is high your're profile will be promoted to more pool of opposite gender and vice-versa.
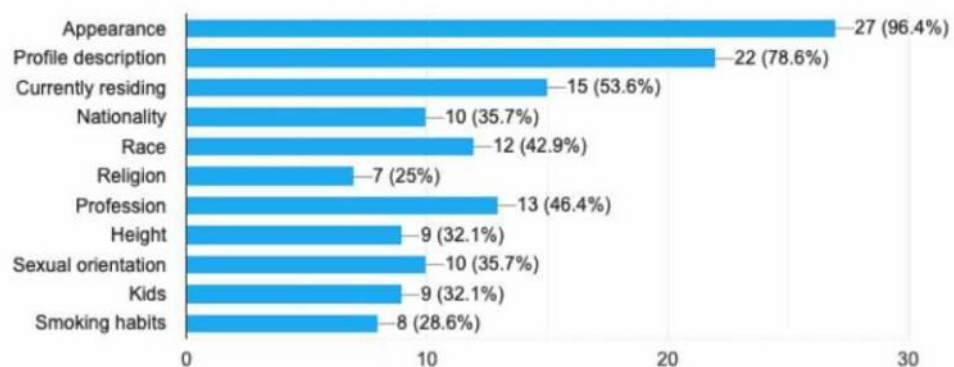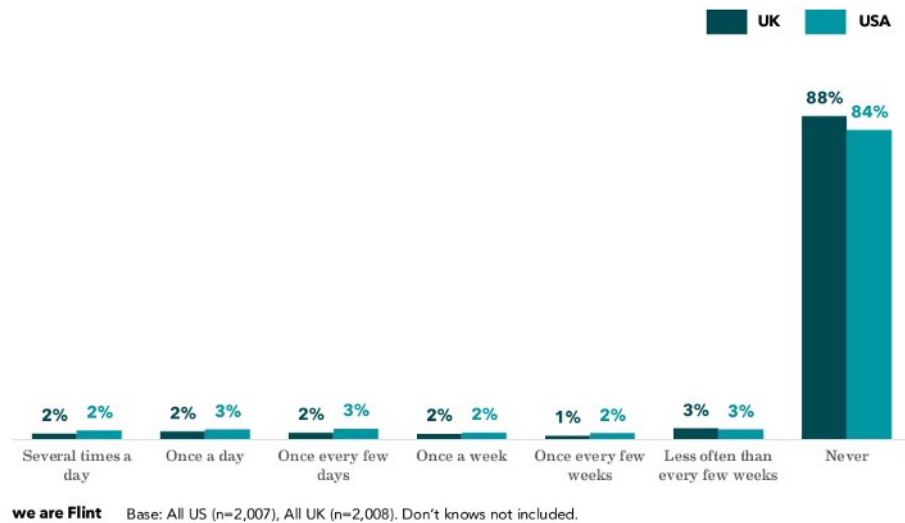

Traits affecting Quality of Profile

App Usage

Tinder knows humans are going to obsolete soon, so they're trying to capitalize ASAP.

Tinder surely wants to make a lot of money, but spending a lot of time on their app also contributes highly to their intentions.

Tinder

Among online UK/US adults aged 18+, frequency of Tinder use

	UK	USA
Several times a day	2%	2%
Once a day	2%	3%
Once every few days	2%	3%
Once a week	2%	2%
Once every few weeks	1%	2%
Less often than every few weeks	3%	3%
Never	88%	84%

we are Flint   Base: All US (n=2,007), All UK (n=2,008). Don't knows not included.

68

Frequency usage, We are Flint

The algorithm promotes those profiles whose **app activity is high**, after all, the more the number of users, the more their capital growth.

Tinder loves its users and never wants to lose its fanbase, and as a result, it often surge active profiles, the more visible profile means more matches which makes the user less prone to try adversaries.

When a user's app using frequency is low, they will lower down his/her possibility of getting a match, because due to low frequency it is highly possible they won't reply back to their match.

There is too many males on the app as compared to the contrary. Tinder prioritize **active woman and active man who are likely to serve them**.
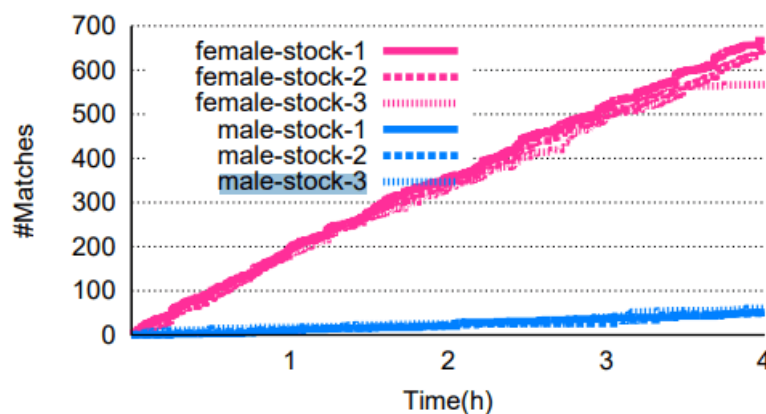
Swiping Activity

Another factor contributing to the "*ELO*" score is swiping activity, Tinder tracks how often you swipe left or right.

If you swipe right, you're too lenient and maybe spamming, if that would be the case, tinder would again lower down your possibility to get a match or in technical terms, it will **ShadowBan** you. Because more swiping, means less messaging and that means less trust on the app and no CEO wants that.
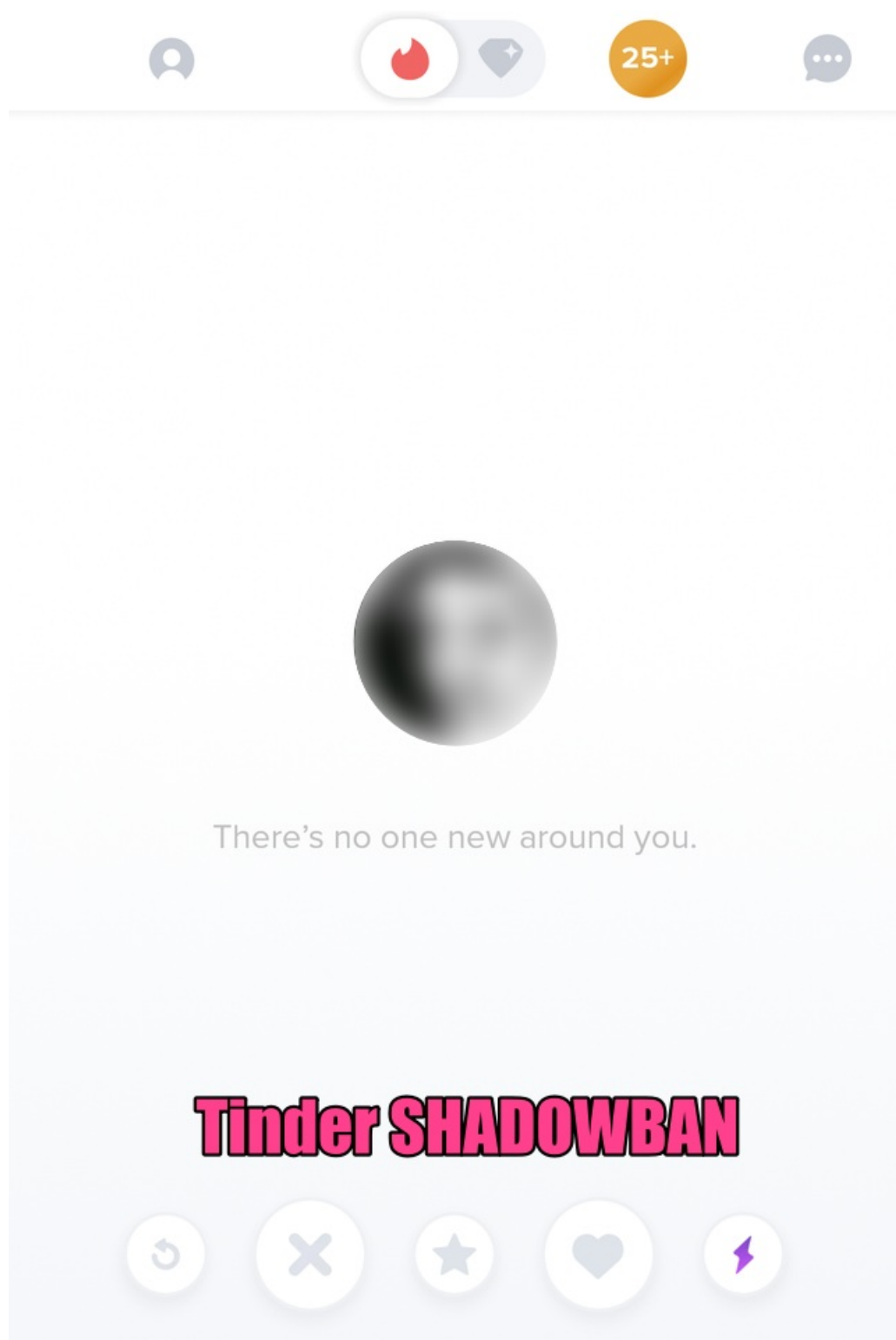
ShadowBan, Source

But again, if you rarely swipe right, it means you're too picky, due to the high men to women ratio, it won't suit the algorithm either.

You're restricted to *100* right swipes for each day in Tinder, to ensure you're really taking a gander at profiles and not simply spamming everybody to pile on arbitrary matches.

To keep getting promoted you need to find a balance to maximize this part of the equation.

Messaging Activity

> In the era of digitalization, privacy is merely a word.

Tinder tracks your messaging activity too, it tracks to how many matches you messaged or initiated a conversation, it tracks the sentiments of that conversation, it tracks the duration you had a conversation, and even if you both shared your contacts number or not.

If you got a high rate of interaction success, the algorithm will reward you by promoting your profile and gaining you more matches.

But if you will keep ladies on hang, it will punish you by degrading the *"ELO"* score of your profile.

For a personalized recommendation, the algorithm will keep an eye on the conversation and sentiments of conversation. Depending on the sentiments and traits you possess, if you and your match had a great messaging activity it will recommend you more profiles sharing some common traits with the former one.
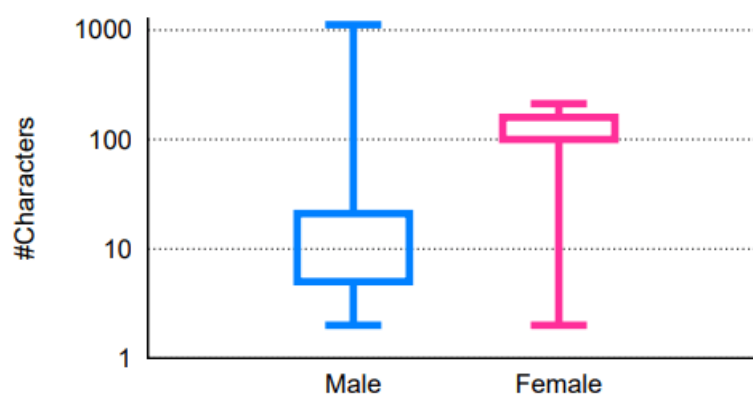
Tinder message length: Male vs Female, Source

The energy with which male message doesn't appear to be coordinated with their articulacy, with the normal note tipping the scales at distinctly unromantic **12 characters**. Messages from ladies will in general normal at a more artistic **122 characters.**

The algorithm will track the sentiment and will make sure your messages are positive but not too much alongside it also keeps an eye on the message sent per message received.

Combining it together

So it happens like this when you'll install and signup for the app, it will

ask for your data like *ethnicity, race, education, height, company*, etc.

For the starters, the app doesn't know much about you, except for the data that you've fed to it. The app will cooperate with you as a "***beginner's luck***" because it still hasn't classified you as a bad or good user, it will surge your profile to see your activity, it will track what kind of people you exactly thrive for?

If you mostly swiped for the Asian race with a Master's level of education, it will try to show you profiles with the same eligibility.

Gradually when you'll keep on using the app, it will try to understand you better, now it not only trace your swipe activity but rather also track your affiliated Spotify, Instagram's accounts activity, to give you a personalized experience of ads.

Combining your past activity and social media interaction it will try to calculate your "*ELO*" score, it will check if the user is actively using the app and if not it will shadowban it, next it will trace for swipe frequency, if that too will be high, it will go onto next step computing user messaging frequency, if all criteria are met then "*ELO*" score would be high and the user's profile will surface to same "*ELO*" scored profiles, if user messaging activity represents a threat to any specie, race or personal offenses, the user will be shadowbanned.
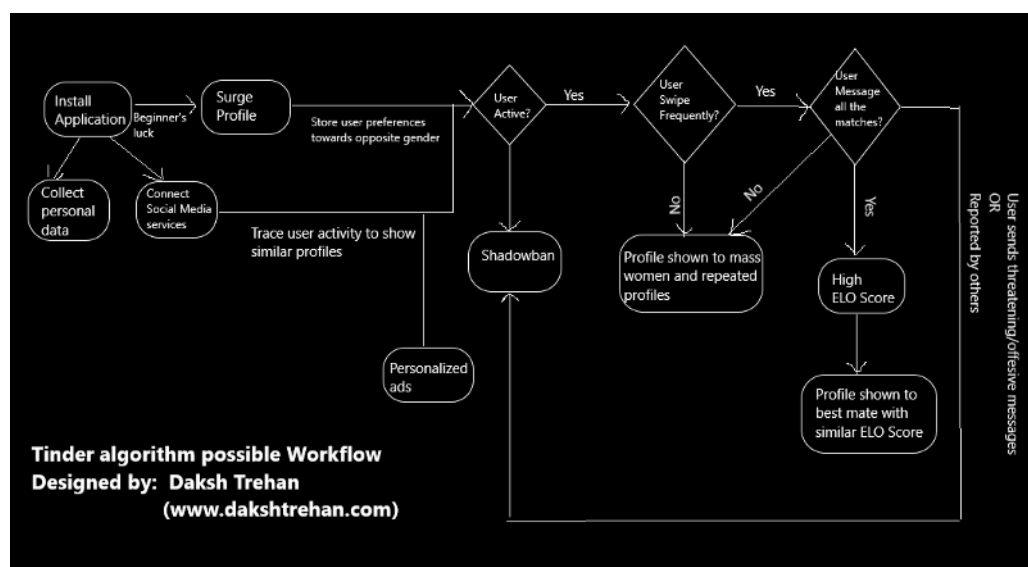

Tinder workflow, Designed by Daksh Trehan, All Rights Reserved

How other dating apps are calculating the "ELO" score?

Popular dating apps like OkCupid or eHarmony claim to use a special

type of ML technique to predict your taste and present you with the most compatible match. These are expected to use the Gale-Shapley algorithm that was developed in 1962 by two economists who wanted to prove that any pool of people could be sifted into stable marriages.

- In the first iteration, each unengaged man proposed to the woman he chose, and then the woman is expected to reply "*maybe*" to her match she prefers the most and "*no*" to others. She is then engaged to the suitor she most prefers so far, and that suitor is likewise provisionally engaged to her.
- In the next round, each unengaged man proposed to the most-suited woman to whom he hasn't proposed and then each woman replies "*maybe*" if she is currently not engaged or prefers him to her already an engaged partner.
- This process is repeated until everyone is engaged.
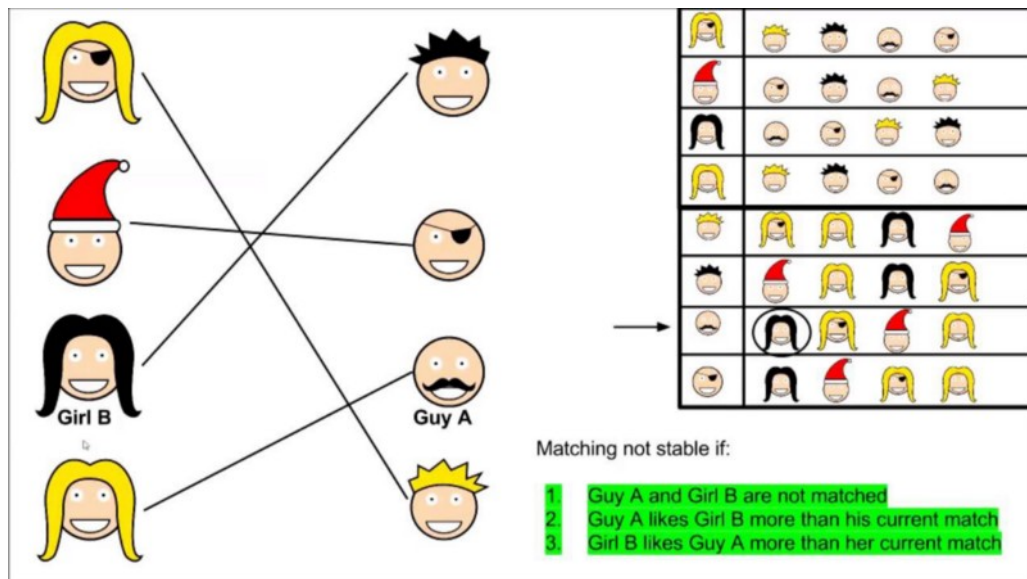
[Gale Shapley Algorithm](#)

This algorithm is guaranteed to produce a stable marriage for all participants in time.

Developing Tinder's ML Model

Step 1. Data labeling and cleaning: Go through 500 to 1000 profiles, each with 4–5 photos, and classify them into "like", "dislike", or "neutral".

Step 2. Neural Network: Using transfer learning train an existing neural network to swipe right or left based on already classified images.

Step 3. Algorithm: Write a function that scores a profile based on the sum of the scores on each image that the above network has come up with.

Is Tinder an excellent matchmaker?

You feed in some information, Tinder collects some more information about you and you're surfaced online popped with multiple matches.

But what Tinder lack is the result, nobody ever discloses what happened after they met? They hooked up, they had babies, they fought, they're leading a perfect loving life or they ghosted each other?

Tinder never received the reward/punishment for its recommendation system so practically it can never improve by its experience making it more robust, it's algorithm might change making it more robust but since it can never get real human feedback it can never improve practically with the same algorithm in-charge.

Secondly, I don't believe Tinder can be trusted, it is data-hungry and it tracks you like most as it can, to understand you, and I am not in favor of AI ruling us in few years.

Valentines may come & go, but, your data will be put online forever.

Conclusion

Hopefully, this article has given you how Tinder is using AI and how its recommendation workflow to find you a loving partner.

As always, thank you so much for reading, and please share this article if you found it useful!

References:

[1] [Tinder Revenue and Usage Statistics (2020)](#)

[2] [AI Behind Tinder](#)

[3] [Tinder's Algorithm — How It Determines Who Gets to See Your Profile & What You Can Do About It.](#)

[4] [Stable marriage problem](#)

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Cheers

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