

StreamMe

A machine learning tool that helps you navigate through the live broadcasting space and reach your goals of fame.

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Technology Impact Cycle Tool

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Impact on society

What impact is expected from your technology?

What is exactly the problem? Is it really a problem? Are you sure?

The purpose of StreamMe is to help navigate the vast landscape of Twitch.tv and help a live broadcaster raise to popularity. StreamMe will extract and process data provided by the public Twitch API and outputting the most popular categories, languages spoken by the streamers and their respective audience. StreamMe solves the issue of recognition, it being hard to find unless you are a part of a certain popular streamer's friend group.

Are you sure that this technology is solving the RIGHT problem?

I am fully aware that the certain time and category a streamer should stream in would be highly helpful to gain some audience. Although, I also believe that this tool will not solve the problem of a streamer's lacking gameplay or entertainment skills. StreamMe is supposed to aid in the process of gaining fame not automating it.

How is this technology going to solve the problem?

The quality of data is of extreme importance to StreamMe. It is fed live data for 48-52 hours, then that data is processed to find correlations in the category-streamer-time of streaming-audience retention chain. As previously mentioned, the tool itself is not going to conjure an audience out of thin air but it for sure will propel the streamer by suggesting the currently most watched category. The success of StreamMe will be evaluated by looking at the increase in following, recurrent viewership and subscriptions.

What negative effects do you expect from this technology?

The downfall of such a recommendation technology is the possibility of a streamer losing perspective and instead of satisfying and growing their current audience to throwing their success based on the recommendation of StreamMe. This technology is not meant to replace common sense but rather alleviate the decision fatigue that comes with looking for a category and a timeslot to stream in.

In what way is this technology contributing to a world you want to live in?

StreamMe is a great opportunity to examine the relationship between a human and a technology. It is not meant to make choices for you but rather help you in your decision making process. The choice a streamer has after they are proposed a recommendation to is still in their own hands. They can choose to either take it or partly implement it into their streaming schedule.

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Moreover, StreamMe is not there to replace the streamer so the broadcaster has full control of whether to use it or not.

Now that you have thought hard about the impact of this technology on society (by filling out the questions above), what improvements would you like to make to the technology? List them below.

Overall, StreamMe is a great companion when it comes to decision making based on other streamer's streaming experience. What is important to mention is that further iterations can allow for a streamer to choose to whom broadcaster within their preferred category to collaborate with. That enables exchange in communities and possibly mutually expanding them. I realized that networking and communication are an important tool to success and Twitch as a platform enables that.

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Hateful and criminal actors

What can bad actors do with your technology?

In which way can the technology be used to break the law or avoid the consequences of breaking the law?

It is unlikely for StreamMe to be used as a tool to break the law. The information provided is extracted from a public facing API meaning it has a certain amount of security to it. Unfortunately, it could be used to harass a streamer. The Internet is a friendly and a hostile place at the same time so no user of the technology would be "safe". StreamMe is a recommendation tooling rather than a decision making one meaning its output is not meant to be brainlessly incorporated.

Can fakers, thieves or scammers abuse the technology?

In the case where a streamer follows the recommendation of StreamMe and gains popularity fast and retains it for a long time, they could be accused of unfair practice. Unfortunately, this is an issue that stems out from society itself rather than the technology. I can imagine people harassing a streamer for their use of the tool because of their rise to fame.

Can the technology be used against certain (ethnic) groups or (social) classes?

The short answer is no. This technology is provided to everyone that has access to the Internet with a reasonably stable connection. It is not going to discriminate or racially profile its users.

In which way can bad actors use this technology to pit certain groups against each other? These groups can be, but are not constrained to, ethnic, social, political or religious groups.

As StreamMe is a recommendation tool, the advice it provides solely relies on whether the streamer decides to do so. They have their total free will to make the decision of whether to follow or ignore the advice. StreamMe exists to provide an edge in the game of discovery on Twitch but not beat it.

How could bad actors use this technology to subvert or attack the truth?

StreamMe relies on the data it is provided and any drastic changes in it could divert the results. An example of a follow-botting a streamer (giving him fake followers) could drastically change the output of the technology.

Now that you have thought hard about how bad actors can impact this

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technology, what improvements would you like to make? List them below.

The best way to protect StreamMe would be to check and ensure data quality as it is heavily relying on it. High accessibility is also on the list of priorities for improvement.

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Privacy

Are you considering the privacy & personal data of the users of your technology?

Does the technology register personal data? If yes, what personal data?

StreamMe uses only publicly available data provided by the public Twitch API.

Do you think the technology invades the privacy of the stakeholders? If yes, in what way?

No, StreamMe does not save or distribute private information.

Is the technology is compliant with prevailing privacy and data protection law? Can you indicate why?

StreamMe uses only reputable data sources making in compliant with all regulations for privacy and data protection.

Does the technology mitigate privacy and data protection risks/concerns (privacy by design)? Please indicate how.

StreamMe does not store personal data so it relies on the legislative entities handled by Twitch.

In which way can you imagine a future impact of the collection of personal data?

The core idea behind StreamMe is to be a recommender rather than a decision maker. This principle protects the user if the technology develops in an unforeseen way.

Now that you have thought hard about privacy and data protection, what improvements would you like to make? List them below.

There are no improvements needed to be made.

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Human values

How does the technology affect your human values?

How is the identity of the (intended) users affected by the technology?

The main focus of the project is on the streamers, who are considered to be the primary stakeholders. StreamMe by itself does not impose a certain behavior. It is neither discriminative nor profiling as it does not affect the user's dignity in no shape or form. StreamMe serves only as a recommendation that will not judge a decision but rather aid in the process.

How does the technology influence the users' autonomy?

I put a big emphasis on the fact that StreamMe is not an enforcer but a recommender. The technology should be perceived as a tool to aid in decision making that than be taken as a dogmatic expression.

What is the effect of the technology on the health and/or well-being of users?

StreamMe helps with decision making and optimization of the livestreaming process. However it is possible that certain individuals take the recommendations as a necessity impacting their lives negatively by supporting unhealthy sleep schedule for example.

Now that you have thought hard about the impact of your technology on human values, what improvements would you like to make to the technology? List them below.

For the streamers a possible filters will be enabled to adjust the proposed stream schedule and/or categories to stream in.

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Stakeholders

Have you considered all stakeholders?

Who are the main users/targetgroups/stakeholders for this technology? Think about the intended context by answering these questions.

Name of the stakeholder

Live streamer

How is this stakeholder affected?

Their possible popularity growth could depend on the output of StreamMe.

Did you consult the stakeholder?

Yes

Are you going to take this stakeholder into account?

Yes

Name of the stakeholder

Advertisers

How is this stakeholder affected?

Their possible expansion on a community of people that follow a streamer could lead to higher sales.

Did you consult the stakeholder?

Yes

Are you going to take this stakeholder into account?

Yes

Name of the stakeholder

Developer

How is this stakeholder affected?

The outcome of the specialization depends on the possible success of StreamMe.

Did you consult the stakeholder?

Yes

Are you going to take this stakeholder into account?

Yes

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Name of the stakeholder
Mentors

How is this stakeholder affected?

The assessment outcome depends on the success of StreamMe.

Did you consult the stakeholder?

Yes

Are you going to take this stakeholder into account?

Yes

Name of the stakeholder

Stream viewers

How is this stakeholder affected?

Their choice of livestreams to watch for entertainments broadens and makes them stay longer on the website providing extra value for all the previously mentioned stakeholders.

Did you consult the stakeholder?

Yes

Are you going to take this stakeholder into account?

Yes

Did you consider all stakeholders, even the ones that might not be a user or target group, but still might be of interest?

Name of the stakeholder

Relatives

How is this stakeholder affected?

Their experience and time schedules might be affected by the streamer's timings.

Did you consult the stakeholder?

Yes

Are you going to take this stakeholder into account?

Yes

Now that you have thought hard about all stakeholders, what improvements would you like to make? List them below.

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During the domain understanding analysis and the following stakeholder analysis, StreamMe will remain as previously stated - publicly available and free of charge.

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Data

Is data in your technology properly used?

Are you familiar with the fundamental shortcomings and pitfalls of data and do you take this sufficiently into account in the technology?

StreamMe is highly dependent on the provided data. Its recommendations might be precise but they could also be really far from the truth depending on the provided data and its reputability. I fully understand the possible shortcomings and make sure to warn about them while people are using StreamMe. This is why rather than a predictor, the technology is a recommender.

How does the technology organize continuous improvement when it comes to the use of data?

StreamMe is a machine learning tool that is going to be lightweight and accessible making it a perfect candidate for self-learning and regular training.

How will the technology keep the insights that it identifies with data sustainable over time?

StreamMe is fully dependent on the public data available from the Twitch API making it closely intertwined with it. The technology will evolve as the trends come and go, by using the data provided.

In what way do you consider the fact that data is collected from the users?

StreamMe is a completely free technology meant to be used by anyone interested in it. There is no monetization scheme behind the technology.

Now that you have thought hard about the impact of data on this technology, what improvements would you like to make? List them below.

StreamMe relies on the data provided by Twitch. Unless there are sudden changes in the accessibility or form of the data, there would be no need of improvements.

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Inclusivity

Is your technology fair for everyone?

Will everyone have access to the technology?

Yes, StreamMe is a completely free technology that can be used by anyone with access to stable Internet connection.

Does this technology have a built-in bias?

Yes, by itself data is biased and StreamMe relies on the data it is provided. Outside of that, the product has only one version meant for everyone interested to use.

Does this technology make automatic decisions and how do you account for them?

StreamMe is designed to be as transparent as possible and to not takeover human intuition and decision making. It is meant to recommend as to aid in decision fatigue and still providing significant value to its users.

Is everyone benefitting from the technology or only a a small group?

Do you see this as a problem? Why/why not?

StreamMe is not designed to disrupt current societal structure but rather provide an aid to the opportunistic individuals. If they possess the necessary charisma and persistence to stay for a long time on the platform, StreamMe will for sure aid in their journey to success. Moreover, the technology is completely free to use and everyone interested in it can use it. The possible shifts in streaming dynamics may allow for different people to interact with each other and grow together.

Does the team that creates the technology represent the diversity of our society?

The team consists of only one developer and four mentors, representing different age groups, cultures and backgrounds.

Now that you have thought hard about the inclusivity of the technology, what improvements would you like to make? List them below.

StreamMe is completely free and there are no caveats to that. No one is excluded from using it and the only possible setback would be the accessibility to stable Internet connection.

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Transparency

Are you transparent about how your technology works?

Is it explained to the users/stakeholders how the technology works and how the business model works?

I explain which are the primary sources used in the technology, which topics are taken and which of them are taken into account. All of the information gained is publicly available and is reputable. As StreamMe is free to use, there is no business model to taken into consideration.

If the technology makes an (algorithmic) decision, is it explained to the users/stakeholders how the decision was reached?

The process of reaching the output is explained by StreamMe itself. It contains all the steps making it highly transparent and trustworthy.

Is it possible to file a complaint or ask questions/get answers about this technology?

StreamMe is developed by a single developer making it difficult to process a huge amount of complaints. Without that hurdle it would be possible to process and apply feedback as well as to process complaints and introduce fixes for the technology in a timely fashion.

Is the technology (company) clear about possible negative consequences or shortcomings of the technology?

Yes, I am fully aware of the possible shortcomings of the technology and I undertake the necessary steps to make them available for everyone to get acquainted with.

Now that you have thought hard about the transparency of this technology, what improvements would you like to make? List them below.

No, there are no improvements needed to be made in this phase of StreamMe.

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Sustainability

Is your technology environmentally sustainable?

In what way is the direct and indirect energy use of this technology taken into account?

StreamMe is intended to be lightweight and deployable on the cloud with minimum amount of energy expenditure.

Do you think alternative materials could have been considered in the technology?

StreamMe is a software rather than a hardware project so material consumption and recycling are not applicable.

Do you think the lifespan of the technology is realistic?

StreamMe is a software rather than a hardware project so material consumption and recycling are not applicable.

What is the hidden impact of the technology in the whole chain?

StreamMe is a software rather than a hardware project so material consumption and recycling are not applicable. The only possible impact would be the change of architecture of the cloud service or local service provider.

Now that you have thought hard about the sustainability of this technology, what improvements would you like to make? List them below.

No, there are no further improvements to be made at this phase of StreamMe.

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Future

Did you consider future impact?

What could possibly happen with this technology in the future?

StreamMe will always rely on the data it is provided but it is possible for it to set new trends if a large group of streamers start using it and collaborate with each other. By all means StreamMe is not a silver bullet for solving the problems that come with livestreaming and building a community.

Sketch a or some future scenario (s) (20-50 years up front) regarding the technology with the help of storytelling. Start with at least one utopian scenario.

Imagine being a small streamer, hardly getting 10 views. Streaming when the bigger streamers are, with their big 40-50k following in their respective categories. There is simply no way a smaller streamer without proper network to get through. So you resort to trying out StreamMe. It provides you with a simple recommendation of a different streaming schedule where there are not so many streamers on popular categories taking you a little closer to success. A month or two pass. You have solid 1000 recurrent viewers and you decide to stop using StreamMe since you have already established yourself a little better. After a year you come to be a great streamer getting stable 3000 recurrent viewers which in the world of livestreaming is success.

Sketch a or some future scenario (s) (20-50 years up front) regarding the technology with the help of storytelling. Start with at least one dystopian scenario.

Image being a solid streamer, getting a following of approximately 2000 recurrent viewers which is regarded as reasonable. But you haven't done anything special recently to catch up to the bigger streamers. You decide to try out StreamMe and completely disregard your current following's interests and start streaming in a really distant from your audience's category. People start leaving, you are left with only a loyal dozen of viewers. Now you have to start from the bottom up again and build yourself to where you were. That would be only because you did not think about your viewers and took the recommendation of StreamMe instead of limiting its recommendation possibilities.

Would you like to live in one of this scenario's? Why? Why not?

It is certainly an exciting process of going from zero to hero but there is also the daunting fall that may come out of one's hubris. Both situations are possible where one opportunistically took a challenge and the other one wanted an easy way up which resulted in great success for the former and massive downfall for the latter. I, myself, would like to experience the first

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situation where decision making was the only bottleneck in my possible success story.

What happens if the technology (which you have thought of as ethically well-considered) is bought or taken over by another party?

The tool is promised to be a recommender making it more unlikely to be used as a marketing or malicious tooling. There are not many ways this technology could go wrong (unless the data suddenly becomes corrupt).

Impact Improvement: Now that you have thought hard about the future impact of the technology, what improvements would you like to make? List them below.

No, there are no further thoughts about improving the future viability of StreamMe.