NAME: sign language

DATE: September 4, 2024 8:03 AM

DESCRIPTION OF TECHNOLOGY
It can be difficult for people to communicate with deaf people. The amount of people who speak American sign language (ASL) ranges between 500,000 and two million. This means that only approximately 0.5% of people in America alone who understand ASL. Making it difficult for deaf people to communicate with hearing people who will most likely not understand ASL.

HUMAN VALUES
This technology will improve the lives of both deaf people and not deaf people. Because they are now able to communicate. This will give deaf people more incentive to go out without having to worry about their ability to communicate with other people.

TRANSPARENCY
The way this technology works should be pretty easy to understand. This technology could have a website on which is explained how it work and how the data is collected.
The business model of this technology is to make communication between deaf and hearing people easier. We are very clear about this.

IMPACT ON SOCIETY
Most people do not understand sign language. So, it's difficult for most people to communicate with deaf people. This technology offers a solution for both deaf and hearing people to make it possible to communicate even if one party cannot understand sign language.

STAKEHOLDERS
- Deaf people.
- People who want to learn sign language
- business owners
- People who don't speak ASL

SUSTAINABILITY
Because this technology does not have a centralized server, we don't have to worry about the energy consumption. This technology will most likely be used as an app on users phone of computer. Therefore energy consumption is non of our concern.
But because this technology uses the camera it does require more energy than other apps. Therefore it might quickly drain the battery of mobile devices.

HATEFUL AND CRIMINAL ACTORS
It could be that a bad actor could label the gestures wrong on purpose. This will result in the model giving the wrong translations. Making the app unusable.
Also a bad actor could hijack the camera of the device that is using the technology. So, this should be made secure.

DATA
The dataset has images of gestures in various lighting conditions.
The resolution of the images has to be quite low. Because otherwise it would be to computationally expensive to create a model with all the different gestures. And the dataset does not have all gestures that exists in American sign language(ASL). So, this is means that some things can not be expressed with this technology. Also this data set only has still images meaning it will not work with gestures that involve…

FUTURE
In the future the model will only be improved over time by adding more gestures to the dataset.

PRIVACY
This technology does not register personal data.

INCLUSIVITY
Because most of the data that has been collected contains the hand of white people. So this technology will most likely have a bias towards people with dark skin. Though we make sure that the data has lots of examples with gestures in suboptimal lighting conditions. We cannot be sure that this technology works in all lighting conditions. Also this technology reflects the time in which it was made. So the dataset needs to be updates as the language evolves.

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HUMAN VALUES

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

To help you answer this question think about sub questions like:

- If two friends use your product, how could it enhance or detract from their relationship?
- Does your product create new ways for people to interact?…

TRANSPARENCY

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

- Is it easy for users to find out how the technology works?
- Can a user understand or find out why your technology behaves in a certain way?
- Are the goals explained?
- Is the idea of the technology explained?
- Is the technology company transparent about the way their…

IMPACT ON SOCIETY

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

Can you exactly define what the challenge is? What problem (what 'pain') does this technology want to solve? Can you make a clear definition of the problem? What 'pain' does this technology want to ease? Whose pain? Is it really a problem? For who? Will solving the problem make the world better? Are you sure? The problem definition will help you to determine…

STAKEHOLDERS

Who are the main users/targetgroups/stakeholders for this technology? Think about the intended context by…

When thinking about the stakeholders, the most obvious one are of course the intended users, so start there. Next, list the stakeholders that are directly affected. Listing the users and directly affected stakeholders also gives an impression of the intended context of the technology.

…

SUSTAINABILITY

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

One of the most prominent impacts on sustainability is energy efficiency. Consider what service you want this technology to provide and how this could be achieved with a minimal use of energy. Are improvements possible?

HATEFUL AND CRIMINAL ACTORS

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

Can you imagine ways that the technology can or will be used to break the law? Think about invading someone's privacy. Spying. Hurting people. Harassment. Steal things. Fraud/ identity theft and so on. Or will people use the technology to avoid facing the consequences of breaking the law (using trackers to evade speed radars or using bitcoins to launder…

DATA

Are you familiar with the fundamental shortcomings and pitfalls of data and do you take this sufficiently into…

There are fundamental issues with data. For example:

- Data is always subjective;
- Data collections are never complete;
- Correlation and causation are tricky concepts;
- Data collections are often biased;…

FUTURE

What could possibly happen with this technology in the future?

Discuss this quickly and note your first thoughts here. Think about what happens when 100 million people use your product. How could communities, habits and norms change?

PRIVACY

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

If this technology registers personal data you have to be aware of privacy legislation and the concept of privacy. Think hard about this question. Remember: personal data can be interpreted in a broad way. Maybe this technology does not collect personal data, but can be used to assemble personal data. If the technology collects special personal data (like…

INCLUSIVITY

Does this technology have a built-in bias?

Do a brainstorm. Can you find a built-in bias in this technology? Maybe because of the way the data was collected, either by personal bias, historical bias, political bias or a lack of diversity in the people responsible for the design of the technology? How do you know this is not the case? Be critical. Be aware of your own biases.…

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