QUICKSCAN - CANVAS

Effects of Noise Pollution AI

NAME: Effects of Noise Pollution AI
DATE: September 5, 2024 3:24 AM

DESCRIPTION OF TECHNOLOGY

In recent years, house pricing has seen a dramatic rise with negative effects becoming apparent in much of the population looking to buy a home. This study aims to shed some light on one of the factors that is affecting house pricing: noise pollution, as well as investigating the options of quantifying this influence using AI.

HUMAN VALUES

The identity itself is unaffected as it does not concern the study.

TRANSPARENCY

There is a study intro/proposal document, as well as an in-progress notebook detailing and explaining every step to achieve the results of the study, available for all to see.

IMPACT ON SOCIETY

Recently, housing prices have risen dramatically, with the reasons often being unclear or muddy. Many may find themselves compromising on aspects such as noise pollution, that may be harmful in the long term for a better price.
If we explore this relationship, we can allow for a clear overview of the economic effect of noise pollution, for people who should know what they're paying for, and governments who can have a better overview of the economic tradeoff.

STAKEHOLDERS

- Fontys University of Applied Sciences
- The teachers of AI sem 4 which are supervising this project
- Rijkswaterstaat
- People looking to purchase a home
- Home sellers/retailers

SUSTAINABILITY

Other than the cost of running a single laptop, energy is not a concern at present.

HATEFUL AND CRIMINAL ACTORS

Seeing as all data used in this study is free and easily available, I do not see potential cases for abuse in terms of law.

The aim is to attempt to quantify the effect of noise pollution on house pricing, something that has been done manually in numerous study, but using AI.

DATA

I am familiar with the fundamental issues of data and have done my best understand and transparently elaborate on the data that I will be using to avoid confusions or incorrect interpretations of the results.

FUTURE

Ideally, the study can be expanded to account for other types of infrastructure related noise pollution. Additionally, it could serve as a chassis for examining the effect of air pollution on house pricing as well.

PRIVACY

The study uses data based on 500m2 areas in the Netherlands, provided for free by CBS and available for anyone to use. There are averages of data including household incomes, number of people, number of children, financial status, but they are not tied to specific individuals and the data does not 'zoom in' further than general numbers per area.

INCLUSIVITY

Unless there was a bias when collecting the data by CBS and Rijkswaterstaat, I do not believe there is a bias in the study.

Data from all over the Netherlands will be used and compared.

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QUICKSCAN - CANVAS - HELPSIDE

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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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