



NAME: Fake News Detection

DATE: September 3, 2024 7:16 PM

DESCRIPTION OF TECHNOLOGY
This AI technology, will be able to detect if the news article is fake or real. It is a popular topic and there are many tools for fake news detection.




IMPACT ON SOCIETY



I want to begin with that this is a broad topic and within my challenge I will cover a small part of it about social media and the importance of trust in this tool.


The problem is, that nowadays there is the presence of fake news and misinformation in the media industry. The problem is indeed real and significant in the current information age. Several challenges are associated with misinformation, and media organizations are particularly vulnerable to its impact.

HATEFUL AND CRIMINAL ACTORS




It is important to note that technology itself is neutral; only the intentions and actions of individuals determine whether it will be used legally or illegally. Legal frameworks and law agencies are constantly adapting to evolving technological issues and reducing the likelihood of inappropriate use. Ethical considerations, responsible development, and robust regulation are necessary to minimize the negative effects of technology use in breaking the law and avoiding legal consequences.

PRIVACY



The technology itself doesn't register or store personal data unless explicitly designed and programmed to do so for specific functionalities. The behaviour of technology, particularly in terms of data collection, largely depends on the purpose, design, and implementation of the software or system.

HUMAN VALUES



This technology will affect human values, because this tool is about big topic News and every person have own opinions, hence this tool can affect some kind of relationship between people. Because everything based on trust and people's opinions. The tool can change people perspectives on news in bad or good ways, because it is related to trust. Transparency and trust here goes hand in hand.

STAKEHOLDERS




- Social Media Organizations - Primary stakeholder for this project
- Fact-Checking Organizations
- Individual Users
- Legal and Ethical Advocates
- Media Organizations

DATA



In my case, I have data which consist mostly US news articles, I have around 40K news articles, and they are divided into 50% fake news and 50% real news, plus I have official labels.


INCLUSIVITY



Yes, fake news detection technology can have built-in bias, and it's a critical consideration in the development and deployment of such systems. Bias in fake news detection can manifest in several ways:

- Labeling Bias
- Training Data Bias
- Content Bias
- Cultural Bias


TRANSPARENCY



Organizations should strive for AI transparency to reduce risk, increase fairness, and satisfy regulatory and compliance laws. This tool is represented as a web page, for a user with no technical background will be hard to understand how the tool is performing, but it is using BERT model which is made for text classification problems and which is working only with the text data. And it is trained on 40K articles with the provided labels and model accuracy is ~90%


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SUSTAINABILITY



The energy use of fake news detection technology is a crucial factor for sustainability. Strategies include optimizing algorithms and hardware efficiency, choosing energy-efficient data centres, ensuring a device's long lifespan, and minimizing data transmission. So that will take more time and a lot of energy. Efficient user interface design and the use of cloud providers prioritizing renewable energy sources also play a role.

FUTURE



In the future, fake news detection technology is likely to improve in accuracy through advancements in artificial intelligence. It may incorporate multimodal analysis, considering various forms of content like images and videos. There could be a focus on explainable AI, providing clear explanations for detection decisions. Addressing ethical concerns and privacy issues will remain crucial in the development of this technology.

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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...


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...


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...

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?...

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.

...

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;...


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....


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...


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?

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?

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