safe driving assistant

a safe driving assistant is a technology mounted with the dashcam in cars that'll monitor the driver's facial expression to check signs of drowsiness or distraction.

Impact on society
What impact is expected from your technology?

What is exactly the problem? Is it really a problem? Are you sure?
The problem being addressed by the safe driving assistant is the occurrence of accidents caused by distracted or drowsy driving. The technology aims to reduce this problem by monitoring driver behavior and providing alerts to regain attention or take a break when necessary.

Are you sure that this technology is solving the RIGHT problem?
While a safe driving assistant addresses symptoms like distraction and drowsiness, there can be deeper issues or causes of accidents like bad infrastructure, stress etc, Causes like these cannot be solved by a camera-machine. SDA doesn't guarantee 100% accident free outcome, but its purpose is to atleast reduce some of the accidents whose cause are distraction or drowsiness.

How is this technology going to solve the problem?
The safe driving assistant utilizes a dashcam-mounted camera and processes an image dataset to observe the driver's expressions and movements. When signs of distraction or drowsiness are detected, the system issues an audio alert. However, it's crucial to note that the driver shouldn't solely rely on the technology, as it may have false positives or miss true alerts. The effectiveness is dependent on the dataset quality, and future improvements could involve using driver images, with consent, to enhance the system's accuracy and reliability over time. Ongoing evaluation and feedback mechanisms will be essential to ensure continuous improvement and effectiveness.

What negative effects do you expect from this technology?
Firstly, there is a risk of drivers becoming overly dependent on the technology, relying on it to the extent that they may reduce their own while driving. This overreliance might result in a false sense of security.

Secondly, the system may generate false positives, triggering unnecessary alerts when the driver is actually attentive. This could lead to annoyance and frustration, possibly causing the driver to disregard valid alerts in the future. Conversely, false negatives, where the system fails to detect actual instances of distraction or drowsiness, pose a significant safety risk as real threats may go unnoticed.

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

Technology Impact Cycle Tool
safe driving assistant

in?

In the short term, the safe driving assistant directly influences the daily lives of individuals by enhancing road safety.

Over the long term, the technology can contribute to a gradual shift in driving culture. Increased awareness of the importance of attentive driving may lead to safer overall road behavior. The continuous improvement of the system, possibly through the incorporation of more advanced sensors and machine learning algorithms, could further refine its effectiveness and reliability.

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.

Potential challenges include issues related to privacy concerns, data security, and the need for ongoing education to ensure users understand the system's limitations and functions.

Also make it more precise ,i.e. reducing the probability of false negatives as much as it can be reduced, establish a mechanism for continuous learning and adaptation based on user feedback and real-world driving scenarios to enhance the system's effectiveness.

Hateful and criminal actors
What can bad actors do with your technology?

This category is only partial filled.

In which way can the technology be used to break the law or avoid the consequences of breaking the law?
Yes, it can be used to break the law. The data collected from driver's face can be used as biometrics (driver's eyes). Driver's face can also be used for identity theft.

Can fakers, thieves or scammers abuse the technology?
This question has not been answered yet.

Can the technology be used against certain (ethnic) groups or (social) classes?
This question has not been answered yet.

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.
This question has not been answered yet.

How could bad actors use this technology to subvert or attack the truth?
This question has not been answered yet.

Now that you have thought hard about how bad actors can impact this technology, what improvements would you like to make? List them below.
This question has not been answered yet.

Technology Impact Cycle Tool

safe driving assistant

Privacy

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

This category is only partial filled.

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

It only registers the facial expression with the consent of the driver.

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

This question has not been answered yet.

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

This question has not been answered yet.

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

This question has not been answered yet.

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

This question has not been answered yet.

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

This question has not been answered yet.

Human values
How does the technology affect your human values?

This category is only partial filled.

How is the identity of the (intended) users affected by the technology?
It does not affect the identity of intended users, it is used to encourage safe driving habits.

How does the technology influence the users' autonomy?
This question has not been answered yet.

What is the effect of the technology on the health and/or well-being of users?
This question has not been answered yet.

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.
This question has not been answered yet.

Technology Impact Cycle Tool

safe driving assistant

Stakeholders
Have you considered all stakeholders?

This category is only partial filled.

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

Name of the stakeholder
Drivers

How is this stakeholder affected?
-

Did you consult the stakeholder?
No

Are you going to take this stakeholder into account?
Yes

Name of the stakeholder
Driving schools

How is this stakeholder affected?
-

Did you consult the stakeholder?
No

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?
-

Now that you have thought hard about all stakeholders, what improvements would you like to make? List them below.
This question has not been answered yet.

Data

Is data in your technology properly used?

This category has not been filled yet.

Technology Impact Cycle Tool

safe driving assistant

Inclusivity
Is your technology fair for everyone?

This category is only partial filled.

Will everyone have access to the technology?
This question has not been answered yet.

Does this technology have a built-in bias?
The technology might have built in bias for people with spectacles as, the images fed to the machine mostly contains a person with glasses.

Does this technology make automatic decisions and how do you account for them?
This question has not been answered yet.

Is everyone benefitting from the technology or only a a small group? Do you see this as a problem? Why/why not?
This question has not been answered yet.

Does the team that creates the technology represent the diversity of our society?
This question has not been answered yet.

Now that you have thought hard about the inclusivity of the technology, what improvements would you like to make? List them below.
This question has not been answered yet.

Technology Impact Cycle Tool

safe driving assistant

Transparency
Are you transparent about how your technology works?

This category is only partial filled.

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

If the technology makes an (algorithmic) decision, is it explained to the users/stakeholders how the decision was reached?
This question has not been answered yet.

Is it possible to file a complaint or ask questions/get answers about this technology?
This question has not been answered yet.

Is the technology (company) clear about possible negative consequences or shortcomings of the technology?
This question has not been answered yet.

Now that you have thought hard about the transparency of this technology, what improvements would you like to make? List them below.
This question has not been answered yet.

Sustainability

Is your technology environmentally sustainable?

This category has not been filled yet.

Future
Did you consider future impact?

This category has not been filled yet.