




NAME: Driver Drowsiness Detection
DATE: May 15, 2025 1:28 PM
DESCRIPTION OF TECHNOLOGY
We are going to use a camera to detect the eyes of the driver. If the eyes are closed for more than 10 seconds, we would alert the driver, because he is falling asleep.




HUMAN VALUES


Addressing biases in the technology to ensure fair and equitable treatment across different demographics, considering factors such as gender, age, ethnicity, and disability; providing clear explanations on how drowsiness is detected; provide users with control by letting them customize for example sensitivity of detection


TRANSPARENCY


Providing clear and comprehensive documentation that explains how the technology works, including the underlying algorithms, data sources, and processing techniques; Presenting transparent explanations of the technology's functionality and purpose to users in a user-friendly manner; Developing a transparent and easily accessible privacy policy that outlines how user data is collected, used, stored, and shared.


IMPACT ON SOCIETY


We would like to enhance the accuracy and reliability, limit the bias in data, make our privacy and data protection more robust, and improve the transparency and explainability of the technology by providing detailed explanations.


STAKEHOLDERS


We are going to actively seek and incorporate user feedback and incorporate their perspectives to ensure the technology meets their needs.


SUSTAINABILITY


Implement efficient algorithms and optimize the software to reduce the overall energy footprint without compromising performance; Ensure the use of sustainable and environmentally friendly materials in the production of hardware components; Collaborate with hardware manufacturers to develop energy-efficient sensors and components specifically designed for driver drowsiness detection

HATEFUL AND CRIMINAL ACTORS


We would like to enhance the security of the system; implement strict data protection measures like data encryption; ensure users are informed about the collection of their data; regular system audits; monitor technology usage for unethical behaviour.


DATA


Ensuring that the data used for training the technology is obtained ethically and in compliance with privacy regulations; Conducting rigorous bias assessments of the training data to identify and mitigate any biases that may impact the accuracy and fairness of the technology; Implementing robust data security measures to protect the collected data from unauthorized access, breaches, or misuse.


FUTURE


Engage with relevant stakeholders such as automotive manufacturers, regulatory bodies, road safety organizations, and user advocacy groups to gather diverse perspectives and insights; Collect feedback from users and stakeholders to identify areas for improvement and implement necessary updates and refinements.

PRIVACY


We would like to collect and retain only the necessary data for drowsiness detection; implementing robust security measures for data storage, transmission, and processing; adhering to relevant privacy laws and regulations

INCLUSIVITY


Designing user interfaces and features that are accessible to individuals with disabilities or specific needs; Incorporating multilingual support in the technology to cater to users from diverse linguistic backgrounds; Taking into account cultural differences and sensitivities in the design and deployment of the technology; ensuring that the technology's algorithms and models are trained on diverse datasets.

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University of Applied Sciences






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DESCRIPTION OF TECHNOLOGY
We are going to use a camera to detect the eyes of the driver. If the eyes are closed for more than 10 seconds, we would alert the driver, because he is falling asleep.




HUMAN VALUES
Now that you have thought hard about the impact of your technology on human values, what improvements...




If you think about the impact of this technology on human values and needs. If you think about how this technology affects the identity of the user, the autonomy of the user (can the users make their own decisions?) and the health and well-being of the user. If you think about all that, what improvement would you (want to) make? In the technology?...

TRANSPARENCY
Now that you have thought hard about the transparency of this technology, what improvements would you like t...




If you think about the communication on the way the technology works and the businessmodel. If you think about the explanation on automatic decisions that are made. If you think about complaint procedures and transparency on possible negative effects. If you think about all that, what would you (want to) improve? In the technology? In context?...

IMPACT ON SOCIETY
Now that you have thought hard about the impact of this technology on society (by filling out the questions...




If you think about the real problem this technology is going to solve. If you think about the ability of this technology to solve the real problem. If you think about possible negative effects and whether this technology will contribute to a world you want to live in. If you think about all that, what improvements would you make? In technology? In context? In use?...

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




If you think about all stakeholders of this technology. If you think about stakeholders that are less obvious. If you think about the way certain stakeholders are affected by this technology and if you want to take them into consideration. If you think about all that, what would you (want to) improve? In the technology? In context? In use?...

SUSTAINABILITY
Now that you have thought hard about the sustainability of this technology, what improvements would you like t...




If you think about the direct and indirect energy use and the materials that are used in the technology. If you think about the lifespan of the technology and the hidden environmental impact of the technology. If you think about all that, what improvements would you (want to) make? In the technology? In context? In use?...

HATEFUL AND CRIMINAL ACTORS
Now that you have thought hard about how bad actors can impact this technology, what improvements would...




If you think about this technology being used to break the law, or avoid the consequences of breaking the law, or to be used against certain groups, or to attack the truth or to pit certain groups against each other. If you think about all of that, what improvements would you (want to) make? In the technology? In context? In use?...

DATA
Now that you have thought hard about the impact of data on this technology, what improvements would you...




If you think about the limitations of data. Things like subjectivity, incomplete datasets and so on. If you think about the way new insights are handled. If you think about the sustainability of the collection of data or the data that is collected from the users. If you think about all that, what would you (want to) improve? In the technology? In context?...

FUTURE
Impact Improvement: Now that you have thought hard about the future impact of the technology, what...




If you think about an utopian and a dystopian scenario. If you think about the way this technology can change the world. If you think about the consequences of a different party buying your technology. If you think about all that, what would you (want to) improve? In the technology? In context? In use? ...

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



If you think about this technology invading someone's privacy or collecting personal data and if you think about the way this technology is compliant with prevailing law and mitigates dataprotection risks and concerns. If you think about all that, what improvements would you (want to) make? In the technology? In context? In use?...

INCLUSIVITY
Now that you have thought hard about the inclusivity of the technology, what improvements would you like to...



If you think about accessibility to this technology. If you think about built in biases or automatic decisions that may be biased. If you think about who is benefitting from this technology and the diversity of the team that creates the technology. If you think about all that, what improvements would you (want to) make? In the technology? In context? In use? ...

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