IMPROVEMENTSCAN - CANVAS AI model predicting intention out of bed

NAME: AI model predicting intention out of bed
DATE: January 30, 2025 4:43 PM
DESCRIPTION OF TECHNOLOGY
Intention out of bed prediction with AI

HUMAN VALUES

The current dataset is limited, which impacts prediction accuracy. Collecting more data over a longer period is essential to improve the system's ability to detect intentions to get out of bed. Hidden variables, such as resident health conditions and behaviors, also need to be better understood. Collaboration with experts will help refine detection thresholds and improve predictions. These steps will ensure the system minimizes false alerts while maintaining the safety and well-being of residents.

TRANSPARENCY

I would like to be more transparent in how the thresholds are being calculated and in how the system decides when a intention out of bed is being detected. This is important as it decides a lot on how the predictions currently is being handled.

IMPACT ON SOCIETY

The current timespan of 3 days is not enough to detect reliable patterns. More data is needed over a longer period to improve accuracy. It would also help to gather more details about resident behavior and health conditions, as these factors can affect predictions. Improvements will focus on refining detection thresholds and ensuring caregivers get accurate and timely notifications.

STAKEHOLDERS

I would like to more about resident behaviour, which is currently not taken to account well. I have reached out to Avoord and tanteLouise to get an insight on resident behaviour, as it has a lot of impact on development of decubitus. But I have not been able to have a meeting with them. This needs to happen in the future as insights on how residents behave will improve the predictions a lot as right now we expect residents to follow certain rules and do certain behaviour which is not always the case.

SUSTAINABILITY

The energy usage is important as to be able to make predictions a lot of power is required to train models. It is important that when training is done that it should be done at appropriate timing and when the energy availability is on a high rise. Since retraining does not need to happen that frequently, it is important to schedule it so it can be expected when it needs to be done. It would be for the best that training and retraining will be done with green energy.

HATEFUL AND CRIMINAL ACTORS

The only lack of consequences that can happen is that nurses from the nursing home care 100% trust the system, as that cannot be the case. Everything and everyone can make mistakes, even systems or doctors. It is important to know what needs to be done when that happens.

DATA

I would like to gather more data on different types of behaviour for each mattress type to group residents based on mattress behaviour. This would allow predictions to be made within smaller, more specific groups, improving accuracy. Currently, there are large groups with big differences that cause less accurate predictions. Additionally, collecting data over a longer time span would also help improve the system.

FUTURE

In the future the technology should only focus on the residents that are or have been in this location to be able to make their predictions as all the knowledge and actions should be taken should be done by residents that are or were known by the nurses. If data outside the instances is being delivered, it could lead to negative impact. And if the decision is being made to make it so it can be used globally, a lot of training needs to be done.

PRIVACY

I do not think I can make any improvements currently as everything I have data wise that can be backtracked to the resident has been anonymized, other data does not say much in its own, so there is nothing to being able to done with them.

INCLUSIVITY

I would like to be able to create even more diversity with the predictions, as resident behaviour is different and cannot be directly be grouped into big groups. It should look at the location of an institution, the residents in there and based on that make decisions based on turned on settings.

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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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