AI Human movement recognition

Tracking human movement patterns in public places/spaces

Created by: 482428@student.fontys.nl
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Context of use: Education
Level of education: Bachelor

Impact on society
What impact is expected from your technology?

What is exactly the problem? Is it really a problem? Are you sure?
The human population is growing, and public spaces are getting more crowded, there should be a automated way to analyse movement op large groups of people in public spaces to better understand when where and how people are gathering and moving. This to better improve infrastructure and make infrastructure that actually helps to solve a problem.

Are you sure that this technology is solving the RIGHT problem?
It's not solving the problem directly, but it does support maintainers with how people are moving, provide information about what patterns occur at what time and show the maintainers the problem that needs solving.

How is this technology going to solve the problem?
It will better show patterns over a longer time frame than humans are able to proces.

What negative effects do you expect from this technology?
It may show problems that are not experienced by the people walking, and because of this may put bigger issues to the side.

In what way is this technology contributing to a world you want to live in?
It makes getting to where you want to go easier and less of a tyring task as the model will show maintainers how people actually want to walk.

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.
The model should explain or highlight moments where movement is stalled/ inefficient. This way experts can better understand issues the model presents.

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

In which way can the technology be used to break the law or avoid the consequences of breaking the law?
The model is tracking humans, it could by criminals for stalking.

Can fakers, thieves or scammers abuse the technology?
Thieves could use it to understand patterns and can use it to better themselves in pickpocketing.

Can the technology be used against certain (ethnic) groups or (social) classes?
The model is trained on a diverse group of people and the transformer based architecture is better at understanding the principle of a human than recognizing specific type of human.

But the model could be provided with other data to single out a specific group.

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.
It could be used to analyse a certain group, but it wont be able to directly put groups against each other.

How could bad actors use this technology to subvert or attack the truth?
Don't see how

Now that you have thought hard about how bad actors can impact this technology, what improvements would you like to make? List them below.
It's a good thing that a transformer model is used as it generalizes more, but as the model can be trained in different ways it is up to the user to use it ethically

Technology Impact Cycle Tool

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Privacy

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

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

It register ID's that are linked to a person in a video.

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

It does, it tracks humans in public spaces.

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

As it's legal to film in public it's complaint. But people have not consented to have there footage be used to train and be analysed by an AI model to make improvements in public spaces.

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

No it does not, as the only way to identify the person is to use the video footage. The AI model does not add any further information to identify the person.

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

I can't

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

Remove the overlay of ID's when showing the video as the ID's don't add much to understanding movement issues, it only helps identifying people based on movement.

Human values
How does the technology affect your human values?

This category is not applicable for this technology.

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
Maintainer

How is this stakeholder affected?
Maintainer is now better able to analyse issues in public spaces and can make decisions on the findings.

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?
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Now that you have thought hard about all stakeholders, what improvements would you like to make? List them below.
Make it more usable. The stakeholder should be able to upload a video and get results, it shouldn't be any more complicated.

Data
Is data in your technology properly used?

This category is not applicable for this technology.

Inclusivity
Is your technology fair for everyone?

This category is not applicable for this technology.

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Transparency

Are you transparent about how your technology works?

This category is not applicable for this technology.

Sustainability

Is your technology environmentally sustainable?

This category is not applicable for this technology.

Future
Did you consider future impact?

This category is not applicable for this technology.