AI gebruiken om GW's te vinden

Binary black hole mergers detecteren aan de hand van music library features met behulp van long short term memory neurale netwerken

Technology Impact Cycle Tool

AI gebruiken om GW's te vinden

Impact on society
What impact is expected from your technology?

This category is only partial filled.

What is exactly the problem? Is it really a problem? Are you sure?
Het doel van dit project is om uit te proberen of het mogelijk is om met de features van audio libraries zwaartekrachtsgolven van gebeurtenissen te detecteren. Het is een andere/nieuwe manier van aanpak die snel over het hoofd wordt gezien omdat zwaartekrachtsgolven geen muziek golven zijn, maar wel een golfbeweging maken. Door middel van audio features zou het misschien mogelijk kunnen zijn om gebeurtenissen die zwaartekrachtsgolven genereren waar te nemen.

Are you sure that this technology is solving the RIGHT problem?
This question has not been answered yet.

How is this technology going to solve the problem?
This question has not been answered yet.

What negative effects do you expect from this technology?
This question has not been answered yet.

In what way is this technology contributing to a world you want to live in?
This question has not been answered yet.

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.
This question has not been answered yet.

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?

Ik zie geen reden waarom deze technologie de wet zou overtreden, aangezien het hier niet gaat om personen of dieren. Alle data is beschikbaar over de hele wereld en het detecteren van een gebeurtenis lijkt mij niet een voordeel die je kunt krijgen over iemand anders.

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.

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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?

Aangezien de data gaat over gebeurtenissen in het heelal, zijn er geen persoonlijke gegevens gemoeid met dit project.

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.

Technology Impact Cycle Tool

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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?

Wetenschappers kunnen door deze techniek mogelijk sneller of met meer zekerheid een gebeurtenis met zwaartekrachtsgolven detecteren. Dit zou hun werk dan 'iets' makkelijker maken.

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

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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
Wetenschappers gespecialiseerd op het gebied van AI en zwaartekrachtsgolven

How is this stakeholder affected?
-

Did you consult the stakeholder?
No

Are you going to take this stakeholder into account?
No

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.

Technology Impact Cycle Tool

AI gebruiken om GW's te vinden

Data

Is data in your technology properly used?

This category is only partial filled.

Are you familiar with the fundamental shortcomings and pitfalls of data and do you take this sufficiently into account in the technology?

Een belangrijke tekortkoming in de dataset, is het feit dat het gaat om gesimuleerde data. In dit geval zijn er 16 parameters die ruis hebben toegevoegd aan het signaal, maar echte data reist meerdere lichtjaren door het heelal om vervolgens waargenomen te worden door een detector óp aarde. De aarde zelf is ook niet vrij van bewegingen en trillingen. Deze ruis van de aarde valt niet 100% samen te vatten in deze 16 ruis parameters. De gesimuleerde data is dus een versimpelde versie van de echte data.

How does the technology organize continuous improvement when it comes to the use of data?

This question has not been answered yet.

How will the technology keep the insights that it identifies with data sustainable over time?

This question has not been answered yet.

In what way do you consider the fact that data is collected from the users?

This question has not been answered yet.

Now that you have thought hard about the impact of data on this technology, what improvements would you like to make? List them below.

This question has not been answered yet.

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?
Het gebouwde model om gebruik te maken van deze audio features is gebouwd met mijn kennis van neurale netwerken en audio processing. Aan het begin van deze stage wist ik er relatief weinig vanaf vergeleken met nu. Een aantal keuzes die gemaakt zijn, zouden dus niet voor het optimale resultaat kunnen zorgen. Naar mijn weten heb ik het zo goed mogelijk laten presteren, maar hier zou een expert op dit gebied dus anders over kunnen denken.

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.

Transparency

Are you transparent about how your technology works?

This category has not been filled yet.

Sustainability

Is your technology environmentally sustainable?

This category is only partial filled.

In what way is the direct and indirect energy use of this technology taken into account?

Er is geen rekening gehouden met het energiegebruik tijdens het werk aan dit project. Het trainen van het model kost de meeste energie, maar zodra een model klaar is met trainen dan kan het model vrij efficiënt antwoorden leveren.

Do you think alternative materials could have been considered in the technology?

This question has not been answered yet.

Do you think the lifespan of the technology is realistic?

This question has not been answered yet.

What is the hidden impact of the technology in the whole chain?

This question has not been answered yet.

Now that you have thought hard about the sustainability of this technology, what improvements would you like to make? List them below.

This question has not been answered yet.

Future
Did you consider future impact?

This category is only partial filled.

What could possibly happen with this technology in the future?
Ik verwacht niet dat het direct een grote impact zal hebben op de massa, maar voor wetenschappers die onderzoek doen naar zwaartekrachtsgolven kan het interessant zijn om deze techniek in hun achterhoofd te houden.

Sketch a or some future scenario (s) (20-50 years up front) regarding the technology with the help of storytelling. Start with at least one utopian scenario.
This question has not been answered yet.

Sketch a or some future scenario (s) (20-50 years up front) regarding the technology with the help of storytelling. Start with at least one dystopian scenario.
This question has not been answered yet.

Would you like to live in one of this scenario's? Why? Why not?
This question has not been answered yet.

What happens if the technology (which you have thought of as ethically well-considered) is bought or taken over by another party?
This question has not been answered yet.

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