



QUICKSCAN - CANVAS Threat assessment of Generative AI spoofing AIS


NAME: Threat assessment of Generative AI spoofing AIS 

DATE: May 15, 2026 1:43 PM


DESCRIPTION OF TECHNOLOGY
My research project investigates how AI-generated cyberattacks could pose threats to offshore and near-shore cyber-physical systems, specifically by spoofing relevant AIS messages in the North Sea environment. The goal is to map out what kinds of generative AI-enabled attacks exist, assess which are most relevant and efficient for maritime and offshore contexts and visualize the threat level it poses.

HUMAN VALUES 


The project will raise awareness for people working in this sector.

TRANSPARENCY 


Yes, everything will be clearly explained.

IMPACT ON SOCIETY 


Generative AI cyberattacks are in a big uprise. It is used everywhere and all the time, and will at some point also infiltrate the maritime sector. As traditional cyberattack numbers are in an enormous uprise across this sector, it's only about when this will be automated and the pressure will become high on these cyber-physical systems. For that reason there is a need to know what they're dealing with. This is necessary to solve to create awareness and resilience.

STAKEHOLDERS 


- Casper Shellekens
- NEPTARGOS
- Maritime sector

SUSTAINABILITY 


It's a threat assessment inside a paper. It uses no energy.

HATEFUL AND CRIMINAL ACTORS 


My research project could possibly be used to gather information on learning what AIS is and how to attack AIS-dependent systems by conducting (GenAI) cyberattacks stated in my solution.

DATA 


During my research, I validate the correct operation of the tools I use. This include tools or scripts that gather data, which to me is the only source of data included in my project.

FUTURE 

This should lead to awareness on this topic and thus to mitigations and better resilience in general. My project could prevent cyberattacks in the future and could support the security of the maritime sector to grow stronger and be better prepared for the future of cyberattacks.

PRIVACY 




Some of my tests use live AIS data, which is legally gathered through publicly accessible processes.

INCLUSIVITY 


Bias is very limited, all information is backed up by sources and/or tests.

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HUMAN VALUES 

How is the identity of the (intended) users affected by the technology?

To help you answer this question think about sub questions like:

- If two friends use your product, how could it enhance or detract from their relationship?
- Does your product create new ways for people to interact?...

TRANSPARENCY 

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

- Is it easy for users to find out how the technology works?
- Can a user understand or find out why your technology behaves in a certain way?
- Are the goals explained?
- Is the idea of the technology explained?
- Is the technology company transparent about the way their...

IMPACT ON SOCIETY 

What is exactly the problem? Is it really a problem? Are you sure?

Can you exactly define what the challenge is? What problem (what 'pain') does this technology want to solve? Can you make a clear definition of the problem? What 'pain' does this technology want to ease? Whose pain? Is it really a problem? For who? Will solving the problem make the world better? Are you sure? The problem definition will help you to determine...

STAKEHOLDERS 

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

When thinking about the stakeholders, the most obvious one are of course the intended users, so start there. Next, list the stakeholders that are directly affected. Listing the users and directly affected stakeholders also gives an impression of the intended context of the technology.

...

SUSTAINABILITY 

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

One of the most prominent impacts on sustainability is energy efficiency. Consider what service you want this technology to provide and how this could be achieved with a minimal use of energy. Are improvements possible?

HATEFUL AND CRIMINAL ACTORS 

In which way can the technology be used to break the law or avoid the consequences of breaking the law?

Can you imagine ways that the technology can or will be used to break the law? Think about invading someone's privacy. Spying. Hurting people. Harassment. Steal things. Fraud/identity theft and so on. Or will people use the technology to avoid facing the consequences of breaking the law (using trackers to evade speed radars or using bitcoins to launder...)

DATA 

Are you familiar with the fundamental shortcomings and pitfalls of data and do you take this sufficiently into...

There are fundamental issues with data. For example:

- Data is always subjective;
- Data collections are never complete;
- Correlation and causation are tricky concepts;
- Data collections are often biased;...

FUTURE 

What could possibly happen with this technology in the future?

Discuss this quickly and note your first thoughts here. Think about what happens when 100 million people use your product. How could communities, habits and norms change?

PRIVACY 

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

If this technology registers personal data you have to be aware of privacy legislation and the concept of privacy. Think hard about this question. Remember: personal data can be interpreted in a broad way. Maybe this technology does not collect personal data, but can be used to assemble personal data. If the technology collects special personal data (like...

INCLUSIVITY 

Does this technology have a built-in bias?

Do a brainstorm. Can you find a built-in bias in this technology? Maybe because of the way the data was collected, either by personal bias, historical bias, political bias or a lack of diversity in the people responsible for the design of the technology? How do you know this is not the case? Be critical. Be aware of your own biases....

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