


NAME: Ordina train delay prediction


DATE: May 2, 2025 9:18 AM

DESCRIPTION OF TECHNOLOGY


This project aims to make a model that predicts if there is a delay or not and how long the delay is going to be. The problem it is trying to solve is that sometimes people get stuck on the train because of the delays and with our idea people would be able to make a choice to take the car by looking at the predictions before going on the train. How realistic this idea is, is something that we will find out along...



HUMAN VALUES




TRANSPARENCY




One of the important improvements is the transparency regarding the models. Even though we put a lot of explanations to the models, we could spend more time on looking for models that fit better with the data or dive more into the algorithm work.

IMPACT ON SOCIETY




To make our model more useful and trustworthy.
We would've liked to take the cause of delays into account.
We would've needed more up-to-date data that is representative of the current state of the train infrastructure.
We would've also needed data from other countries' train transport.
We would then also need to find a solution for the natural imbalance in the data, delays that don't impact travel occur much more often than big impactful delays. It might be that...

STAKEHOLDERS




We would include a user manual of what data the potential app can use. In the beginning if the Jupiter notebook is the only thing used a manual can be done for that as well so Ordina employees know how to operate with it and what information they can retrieve from it.


SUSTAINABILITY



HATEFUL AND CRIMINAL ACTORS




DATA



One of the important things we may do to improve our work is looking for other datasets, that can enrich the one we use. Now we don't have confident model results and we concluded that the dataset features are just not enough. Also, we can look at other data sources, since the data we currently have is highly unbalanced and sampling methods do not work that well. That way we can add more rows and balance the departures with and without delays. Another thing to improve is the handling of the data. We could make the extraction of...

FUTURE




Seeing as these negative scenarios are always the case of an external entity taking ownership of our built model and modifying/improving it to fit their needs, we cannot modify or improve our technology to prevent that.

What we could do is license our model under a license that would prevent modification or prevent consequences of modification to be our responsibility, however seeing as this technology will be provided to Ordina no questions asked, th...

PRIVACY



INCLUSIVITY



technology-wise there is nothing that could affect the inclusivity, but it would be better if we changed the target group to people using the trains overall instead of only the ones that work for Ordina. It would also be better if we had a team that was more representative of the target group and if we had some more people of colour and with different experiences, backgrounds, and cultures.


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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?...

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?...


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?...

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?...

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?...

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?...


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?...

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?...

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?...

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? ...

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