AI Car detection

Model identifies what type of accident that car with a cost estimation for repair

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Level of education: Bachelor

Technology Impact Cycle Tool

AI Car detection

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?

Claim information at Bul Ins is scattered over different places and handled by hand, so everything is slower. Employees named manual data entry, saving documents and giving out documents as the steps that take too long. The pain is felt by claims handlers, customers and Bul Ins. My project recognizes damage in photos automatically so it does not have to be checked and typed by hand, and the cost analysis measures what the manual work costs and what it saves.

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?

People could edit or generate damage photos to get a higher payout, and a cost estimate makes this more attractive. Bringing scattered data together in one place also makes it easier to misuse or leak, for example an employee looking up customers without a reason. A company could also use the tool to justify lower payouts, which is why a person must stay responsible for decisions about cost.

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.

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?

The model only sees a crop of the damage, but claim files around it usually contain names, contact details, ID numbers, licence plates, addresses, bank details and photos that can show faces or places (to be confirmed with Bul Ins). If I bring this data together or use past claims for the cost analysis, GDPR applies, so I need a legal basis, an agreement with Bul Ins, limited access and anonymisation where possible. It contains no special data such as health or ethnicity.

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.

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?

Claims handlers move from typing and searching to checking the tools suggestion, which can free them for difficult cases. They could also feel measured, because the cost analysis times their work, or trust the tool too much. Customers get faster handling, but a figure from software can feel impersonal if they disagree about the amount. The tool should support handlers and not replace their judgement.

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.

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
Bul Ins

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.

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?

Claims handlers get less manual work but stay responsible. Bul Ins management pays for the project and gets the cost saving, and Bul Ins IT must connect the tool to the places where data is scattered. Customers could get faster claims, but also unfair amounts if the tool is wrong. Assessors, repair shops and the Financial Supervision Commission are also affected. I have only asked Bul Ins employees about slow processes, so the others are assumed, not consulted.

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?

Yes. Crack is recognised 46% of the time and tire flat 78%, and when unsure the model answers scratch, the cheapest damage type, so a cost estimate could underpay customers with cracks. The model may also use colour and brightness as shortcuts, red and dark cars are hardly in the data, and CarDD was collected outside Bulgaria. A cost model trained on past manual decisions would repeat earlier handlers habits.

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 is only partial filled.

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

Not yet, but it should be. The handler sees the damage type, how sure the model is, and a note that it is only a suggestion. Customers should be told that AI supports the assessment and that a person decides, which also fits GDPRs right not to be subject to a purely automated decision. Bul Ins should get a written explanation of what the tool does, which data it uses and what it costs.

If the technology makes an (algorithmic) decision, is it explained to the users/stakeholders how the decision was reached?

This question has not been answered yet.

Is it possible to file a complaint or ask questions/get answers about this technology?

This question has not been answered yet.

Is the technology (company) clear about possible negative consequences or shortcomings of the technology?

This question has not been answered yet.

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

This question has not been answered 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?

The models are small: k-NN trains in 0.1 s, the SVM in 6 to 8 minutes on a normal computer, and predicting one photo takes a fraction of a second. A CNN with transfer learning needs more training but is cheap to run. The cost analysis will include compute and storage next to staff time, and I keep energy low by choosing the smallest model that is good enough and by not storing photos longer than needed.

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?
If many insurers used it, claims would be faster and more consistent, and handlers would have more time for difficult cases. The risks are more fraud with edited photos, handlers accepting the output without looking, a wrong label being copied automatically through the whole system, and customers losing the chance to object if estimates start deciding payouts. That is why a person stays responsible for any decision about cost or total loss.

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.