

# Ethical Implications of AI WS 20/21

Series of Lectures

Frankfurt Big Data Lab, Goethe University Frankfurt

## Mid-Term Report Requirements

The goal of the mid-term report is to select an AI system (i.e. an AI-product and or an AI-based service) used in healthcare, and start with the evaluation process.

In teams of two students:

Choose a data-driven product/solution in healthcare, and assess for “trustworthiness” with trustworthy AI as based on the EU Ethics Guidelines for Trustworthy AI, adapted to the healthcare domain and the Z-inspection process.

E.g. use of AI/machine learning approaches and technologies to optimise the management of emergencies (e.g. tracking devices, predictions of number of contagions etc., during COVID-19).

The report contributes to your grade and every team member will receive the same grade.

## Scope

The report must be delivered as a google doc (we will create one document per team).

It must be min. 3-max. 5 pages long, including references and written with the google docs presets (i.e. Normal Text: Arial, 11pt).

The Mid Term report should cover the following:

- a) Define and agree upon the **boundaries and context** of the assessment.
- b) Analyze **Socio-technical scenarios**
- c) Identify **Ethical Issues and Tensions**

In particular, the term report should relate to the topics covered by the lecture recordings and paper recommendations for up until the due date, as well as the ALTAI assessment list published by the EU and the ALTAI web tool. Questions that need to be answered in the Mid term report are:

## For point b) Analyze Socio-technical scenarios

By collecting relevant resources, socio-technical scenarios should be created and analyzed by the team of students:

1. Describe the aim of the AI system;
2. Who are the actors;
3. What are the actors expectations;
4. How Actors interacts with each other and with the AI system;
5. What are the process where the AI system is used;
6. What AI technology is used;
7. What is the context where the AI is used;
8. What are any legal and contractual obligations related to the use of AI in this context

And anything else you wish to be relevant.

## For point c) Identify Ethical Issues and Tensions

We use the term 'tension' as defined in [Whittlestone et al. 2019]: „tensions between the pursuit of different values in technological applications rather than an abstract tension between the values themselves.“

### Use the Catalog of Examples of Ethical tensions

- Accuracy vs. Fairness
- Accuracy vs. Explainability
- Privacy vs. Transparency
- Quality of services vs. Privacy
- Personalisation vs. Solidarity
- Convenience vs. Dignity
- Efficiency vs. Safety and Sustainability
- Satisfaction of Preferences vs. Equality

### Classify Ethical tensions

Classify ethical tensions according to the three dilemma defined in [Whittlestone et al. 2019]:

- **true dilemma**, i.e. "a conflict between two or more duties, obligations, or values, both of which an agent would ordinarily have reason to pursue but cannot";

- **dilemma in practice**, i.e. "the tension exists not inherently, but due to current technological capabilities and constraints, including the time and resources available for finding a solution";
- **false dilemma**, i.e. "situations where there exists a third set of options beyond having to choose between two important values".

## Remarks

**NEVER EVER COPY AND PASTE** text from the internet and other sources.

Two options:

1. You can describe what the source is saying using your words and quoting the source.

e.g As indicated in **[Roig and Vetter 2020]** the moon is flat.

### Reference

**[Roig and Vetter 2020]** Why the Moon is Flat. Roig Gemma, Vetter Dennis  
Journal of Dreams, Issue No. 1, November 2020-

2. You can quote what the source is saying using their words in “ “

e.g **[Roig and Vetter 2020]** has made a case that “the moon is completely flat and not round”.

### Reference

**[Roig and Vetter 2020]** Why the Moon is Flat. Roig Gemma, Vetter Dennis  
Journal of Dreams, Issue No. 1, November 2020-

Make sure to READ the source when you use them to make sure you understand the context! In the example above, if you quote that “the moon is flat” without understanding that this was a dream and not a scientific evidence, you are using a quote in a WRONG way!

## Grading

Each team receives 0-5 points for the mid-term report and again for the final report.

To pass the course you need to receive at least one point for both the mid-term and the final report and have a total of at least 3 points.

The points will then be translated into a grade (more points = better grade).

# References

**[Whittlestone et al. 2019]** *Ethical and societal implications of algorithms, data, and artificial intelligence: a roadmap for research*. Whittlestone, J. Nyrup, R. Alexandrova, A. Dihal, K. Cave, S. (2019), London. Nuffield Foundation.