Technische Universität München
School of Social Science and Technology
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Risk and Responsibility Distribution within AI Systems:
A Comparison between different Use Cases

Background

Artificially intelligent systems, such as self-driving cars or facial recognition cameras, are no longer a science-fiction fantasy, but their use and operation in real-life scenarios has experienced rapid achievements in the last years. However, the more such technologies turn into business cases, the more urgent becomes the question of who should bear the associated risks and thus responsibility for them, as risks are manifold.

Expected goals

This thesis' goal is to provide a clear overview on risks and responsibilities in AI-based systems and a review on their distribution and response approaches with a focus on business and user perspectives. Example use cases from industry posing high risks and great need for responsibility distribution mechanisms should be identified and analyzed to compare their risk management approaches. In particular, risks arising from the AI components are targeted. Ultimately, conclusions on major challenges with responsibility distribution and risk management, as well as suggestions from the comparison of different case studies should be presented.

The research should be carried out using a literature review and case study comparison methodology. A major general research question guiding this research will be 'How can we distribute risks and responsibilities of AI-based systems?'. Tasks will include (1) the determination of industries with high risks and high need for sharing responsibilities (2) the identification of risks related to the AI component, (3) a review on risk management strategies for the identified industries, (4) a comparison between the revealed response approaches and (5) the conclusion of derived recommendations.

Recommended literature

Borges, G. (2021, June). AI systems and product liability. In *Proceedings of the Eighteenth International Conference on Artificial Intelligence and Law* (pp. 32-39).

European Commission. (2021, April 21). Regulation of the European Parliament and of the Council: Laying down harmonised rules on artificial intelligence (artificial intelligence act) and amending certain Union legislative acts.

Gerlings, J., Shollo, A., & Constantiou, I. (2020). Reviewing the Need for Explainable Artificial Intelligence (xAI). In *Proceedings of the 54th Hawaii International Conference on System Sciences* (pp. 1284-1293).

Contact

If you are interested, please send your CV and transcript of records to Ellen Hohma (**ellen.hohma@tum.de**).

We are looking forward to your application!