BRIEFING NOTES

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DUAL USE ASPECTS OF ARTIFICIAL INTELLIGENCE (AI) AND AUTONOMOUS SYSTEMS

Authors: Reza Bahrevar [1] and Kash Khorasani [2]
1 Graduate student, Department of Electrical and Computer Engineering, Concordia University, Montreal, Canada
2 Professor, Department of Electrical and Computer Engineering, Concordia University, Montreal, Canada

SUMMARY

- One of the main challenges regarding AI technologies is lack of preparations on legal systems to deal with AI-related legal arguments.
- Individuals and organizations that are negatively affected by potential AI sensory devices or AI algorithms that are used by media platforms such as Facebook or Amazon have to utilize the legal route that is not necessarily well-prepared and developed to evaluate AI-related cases.
- The missing aspects of the evaluation process include criteria that deal with training, data selection, and decision making of AI systems. Lack of evidence and lack of investigators to address concerns on these criteria are amongst the main challenges that are being addressed in this note.

CONTEXT

- Contestability is introduced as one of the core principles of AI systems in numerous AI ethics framework studies [1]. It is recommended that one needs a specialized legal platform that is dedicated to AI systems, such that people can legally challenge the abuse or harm caused by these technologies [2].
- There have been many cases where an AI system breached the privacy of individuals. These cases have resulted in the argument to be brought upon the court of law, where the AI system has affected a career, privacy, or freedom.
- There are arguments that AI systems can even influence the result of an election through their biased recommendation systems.
- What can one do to bring more transparency to AI systems? How can one update the legal systems to be able to deal with issues that arise after the controversial decisions that are made by an AI system? What is considered as evidence?

CONSIDERATIONS

- Legal accountability of AI users in cases that lead to criminal activity [3].
- Application-specific (example: facial recognition), and domain-specific regulations (example: health) [3].
- Characteristics of an AI legal framework by [4]:
    o Presenting proof of the malfunction of AI systems.
    o Contesting and correcting an error.
    o Human understandable explanation.
    o How much the decision made by AI systems affect the person who is contesting that decision.
    o Explaining the decisions that should extend to private AI decision-makers.
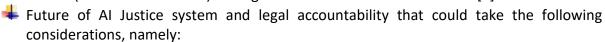
NEXT STEPS

- Enforcing Transparency Based Technologies for critical applications that could be accomplished through the following considerations, namely:
  - An application that can have a non-negligible effect on an individual, civilians, organization, or government should be able to provide a document that includes every controversial decision plus an added explanation for that decision.
  - One way to generate this explanation is through the explainable AI methodologies.
  - Explainable AI methodologies are a class of tools for which a supervisory algorithm oversees the decisions of an AI system. It provides explanatory reasoning regarding the decisions that are made through the inner layers of an AI algorithm (known as black-box) through methods such as decision trees [5].
- Future of AI Justice system and legal accountability that could take the following considerations, namely:
  - One should be able to address problems such as unintended use of AI systems for criminal activity. Demand accountability from AI systems that knowingly share sensitive information with third parties.
  - One should also be able to demand accountability from AI technologies that can potentially cause a high level of health and safety risks to citizens, such as AI in medical applications [6] or AI in autonomous systems.
  - AI-based emerging technologies will bring challenging lawsuits and may impact non-AI related trials in courts.
  - One needs a system with specific attention regarding AI-based technologies that do not take space, interrupt, jeopardize, and collide with the legal process of other existing lawsuits.
  - One may need Juris doctorates, that besides the law are also familiarized with basics of AI systems.
  - It is also recommended to establish new laws that address violations of ethics by using emerging technologies.
  - AI developers should be able to provide evidence for their arguments regarding the logic of their system in a humanly understandable form. However, analyzing this evidence needs specialized trained investigators.
  - Investigators of AI systems not only can follow the presented arguments by developers but also can identify what type of information could have been included in reasonings that were neglected by them.
  - One needs investigators who can analyze evidences and allegations brought upon to the court, identify deficiencies, and present them to the person appointed that would pass on a judgment on the case.

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