
**ARTIFICIAL INTELLIGENCE AND THE PRINCIPLES OF
TORTIOUS LIABILITY**



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INTRODUCTION

Artificial intelligence has become an increasingly prevalent topic in both academic and practical circles. The development of intelligent machines that can learn, adapt and perform tasks that were previously thought to be exclusive to human beings has opened up a range of possibilities for various industries, including healthcare, transportation, manufacturing, and finance. However, the emergence of AI has also created new legal and ethical challenges that require careful examination. One of the most pressing concerns is the question of tortious liability, or the legal responsibility for harms caused by AI systems.

Tort law is a branch of civil law that deals with claims for damages caused by wrongful conduct or negligence. Tortious liability has traditionally been attributed to human actors who engage in conduct that causes harm to others. However, with the advent of AI, the question arises as to whether and how the law should attribute liability for harms caused by machines that operate autonomously or with minimal human supervision. This is a complex issue that requires consideration of a range of factors, including the nature of the AI system, the level of human involvement, and the extent to which the system's actions were foreseeable.

The rise of AI has led to an increasing number of cases where machines are involved in accidents or other incidents that cause harm to people or property. For example, in March 2018, an autonomous vehicle operated by Uber struck and killed a pedestrian in Arizona. In another case, an AI-powered chatbot developed by Microsoft was shut down after it began making racist and sexist comments. These cases highlight the need for clear guidelines on how to assign liability for AI-related harms.

There are a number of different approaches that have been proposed for addressing the issue of tortious liability in the context of AI. One approach is to treat AI systems as legal entities in their own right, with their own legal personality and liability. This would involve creating a new category of legal personhood that would apply specifically to AI systems, allowing them to be held responsible for their own actions. However, this approach raises a number of difficult questions, such as how to define the scope of an AI system's legal personality and how to attribute fault to a non-human entity.

Another approach is to focus on the role of human actors in the development and operation of AI systems. Under this approach, liability would be attributed to the humans who created or supervised the AI system, rather than to the system itself. This approach would require careful consideration of the extent to which human involvement is necessary for the safe and

effective operation of AI systems, and how to determine the level of human responsibility in cases where the system operates autonomously.

A third approach is to adopt a risk-based approach to tortious liability in the context of AI. Under this approach, liability would be based on the level of risk associated with the operation of the AI system, rather than on the specific actions or intentions of the system or its human operators. This approach would require a careful assessment of the potential harms associated with AI systems, as well as the measures that can be taken to mitigate those risks.

The emergence of AI raises complex questions about tortious liability and the legal responsibility for harms caused by autonomous or semi-autonomous systems. This dissertation will examine the various approaches that have been proposed for addressing this issue, and will evaluate their strengths and weaknesses in light of current legal and ethical frameworks. By doing so, this dissertation aims to contribute to a better understanding of the legal implications of AI and to help guide the development of appropriate policies and regulations for the responsible use of intelligent machines.

DEFINITION / DESCRIPTION OF THE TOPIC

The topic of Artificial Intelligence and The Principles of tortious liability aims to analyze the working of Artificial Intelligence and the liability it derivates on an individual or a firm or a company or one the Artificial intelligence itself. This topic further aims to establish a connection between the acts or operations either done with the help Artificial Intelligence or by Artificial intelligence itself with the principles of the Tortious Liability in order to determine the burden of liability arising out of any dispute or act. In addition of establishing the relationship between Artificial Intelligence & Tortious Liability, the topic will also aim to identify the existence of any legal framework being used to ascertain the liability of Artificial Intelligence either in domestic laws or in any international law or any domestic law of a foreign country.

SIGNIFICANCE OF STUDY

The study of Artificial Intelligence (AI) and the Principle of Tortious Liability is important in order to understand the implications of AI on legal liability. AI is increasingly being used in a wide variety of areas, from healthcare to transportation, and its use is projected to continue to grow. With AI being increasingly used, it is important to understand how its use may impact tortious liability. In particular, it is important to understand how AI may be used to create liability in a way that differs from traditional legal concepts of tortious liability. For example, it may be possible to use AI to identify and mitigate potential tortious liabilities before they cause harm. Such an understanding is important in order to ensure that potential tortious liabilities are addressed appropriately. Furthermore, it is also important to consider how AI can be used to create new legal liabilities that may not be covered by existing tort laws. Understanding the implications of AI on tortious liability is essential in order to ensure that its use is responsible and compliant.

REVIEW OF LITERATURE

BOOKS

- **Rodney D Ryder, Nikhil Naren in ‘Artificial Intelligence and Law’ (1st ed. Law and Justice Publishing Co, 2022)**

This book discusses the meaning, evolution and development of Artificial Intelligence. This book also discusses several pertinent question regarding Artificial Intelligence. Like are the artificially intelligent systems around us truly intelligent? Or are they simply producing intelligent results without intelligence? Is it time that we take a break, and introspect about how are lives and day to day chores are being driven by AI [and so our increased dependency]? Therefore, the policymakers and legislatures today need to introspect that whether this modern age of technological advancements have made the governance of such systems chaotic? Can AI replace humans in various professions, or would it replace the ones who do not use it?

- **"Artificial Intelligence for Humans" by Jeff Heaton**

The book is structured to cover various topics of artificial intelligence, including machine learning, neural networks, genetic algorithms, and fuzzy logic, with a focus on practical implementation. The book also covers neural networks and deep learning, explaining the architecture of neural networks and how they are trained. The author also explores genetic algorithms, which are inspired by the process of natural selection, and fuzzy logic, which is a method of dealing with uncertainty in data. The book is written in a clear and engaging style that is accessible to readers with no prior knowledge of AI.

- **Artificial intelligence and the law by Jan De Bruyne and Cedric Vanleehove (2021)**

In this book the authors have talked about how the artificial intelligence has incident into our daily and professional life and this involvement of artificial intelligence poses all together a new challenge to the human life as a as the technology. The authors have extensively discussed about how robots are taking over the activities of humans and what are the liabilities of artificial intelligence.

ARTICLES

- **Could AI Agents Be Held Criminally Liable: Artificial Intelligence and the Challenges for Criminal Law by Dafni Lima (2018), South Carolina Law Review**

The author in this article has explored the evolution of artificial intelligence and their interference in human lives. AI has pushed the rate of development of technology beyond normal pace. The author has specifically talked about the darker and disadvantaged side of the AI, as in AI helps the technology to work even without intervention of any human and now the major question arises over the independent functioning of AI and the liability of the criminal activities.

- **Artificial Intelligence Crime: An Interdisciplinary Analysis of Foreseeable Threats and Solutions by Thomas C. King, Nikita Aggarwal, and Luciano Floridi (2020)**

This talks about the development of artificial intelligence and how it has been growing so large that now it is controlling measure aspects of human life and at the same time it is also developing itself. Disability of self development poses a new threat to the technology as AI are making them sales capable of acts that are considered as crime for the society.

- **AI and Tort Law-- Kristen Thomassen (2021) Lexis Nexis**

In this article the author talks about the liability of person owning the artificial intelligence and the liability of artificial intelligence separately. There are many instances when the criminal activities is conducted through the artificial intelligence, so whom does the tortious liability goes on? The author talks about the aspects of tort law and how it can applied to the artificial intelligence.

- **Tort liability for artificial intelligence and expert systems (1990) by George S. Cole**

This book can be considered one of the earliest to talk about artificial intelligence and how artificial intelligence can do harm to the society. This book is important to learn the earlier understanding of artificial intelligence and how the artificial intelligence has developed three decades hence.

- **Artificial intelligence and civil ability- do we need a new regime? Baris Soyer, Andrew Tettenborn (2023)**

In this article to author about the presence of artificial intelligence in almost every facet of the daily life. The author discusses about how much danger does this artificial intelligence poses to humans and how the law of torts should deal with such risks. Amongst other liability the author proposes strict liability when it comes to personal injury and death.

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OBJECT OF STUDY

- 1) To examine the legal framework for tortious liability in the context of AI systems.
- 2) To analyze the different types of harm that AI systems can cause, such as physical, emotional, and financial harm.
- 3) To investigate the various legal theories that can be used to establish tortious liability for AI-related harm, such as negligence, strict liability, and intentional torts.
- 4) To evaluate the challenges of applying traditional legal principles to AI systems and propose potential solutions.
- 5) To examine the current legal landscape for AI-related tort claims and identify gaps and opportunities for reform.

HYPOTHESIS

- 1) The lack of clear guidelines and regulations for AI systems may lead to increased tortious liability claims against developers and operators.
- 2) The inability of AI systems to fully understand and interpret human emotions may lead to misinterpretation of situations, resulting in tortious liability claims against the developers of such systems.

RESEARCH QUESTIONS

- 1) How do principles of tortious liability apply to the use of artificial intelligence in decision-making processes?
- 2) What ethical considerations arise when developing and deploying AI systems in industries that are subject to tort law, such as healthcare and finance?
- 3) To what extent can AI systems be held liable for harm caused by their actions, and what legal frameworks are currently in place to address this issue?
- 4) What legal precedents exist for holding companies or individuals liable for harm caused by AI systems, and how can these be applied in future cases?
- 5) How can the legal system effectively balance the benefits of AI with the potential risks and liabilities associated with its use?
- 6) Can AI systems be held liable for decisions that are made without human intervention, and how can this issue be addressed in a legal framework?

SCOPE OF STUDY

The scope of this study will be limited to the application of tortious liability principles to AI. The study will focus on the legal liabilities arising from the use of AI in various sectors, such as healthcare, finance, and transportation. The study will also examine the legal frameworks governing AI and tortious liability in various jurisdictions of domestic laws as well as foreign laws along with the help of case studies and set precedents.

RESEARCH METHODOLOGY

Method

The study will employ a qualitative research methodology, involving an in-depth analysis of legal documents, cases, and academic literature related to AI and tortious liability. The research will utilize a comparative analysis approach, comparing the legal frameworks and principles in different jurisdictions. The study will also use a case study approach to explore the practical implications of the legal principles in specific AI-related scenarios.

Sources

The primary sources of information such as acts, statutes, case laws, reports, and recommendations as well as secondary sources of information such as textbooks, articles, commentaries, opinions, web sources, and online legal databases on the relevant area of research, are used in the research work.

Citation Style

A uniform and consistent citation style of “Oxford University Standard for the Citation of Legal Authorities”, have been used in the research.

TENTATIVE CHAPTERISATION

- **CHAPTER 1: Introduction** – This chapter will deal with background and overview of the Artificial Intelligence and Tortious Liability. Along with the purpose of study, scope and limitations of the study as well as the proposed research questions and the hypothesis
- **Chapter 2: Evolution of Artificial Intelligence** – This chapter will deal the history and evolution of Artificial intelligence. Further this chapter will enunciate how an algorithm is created and what are the steps involved, rules and guidelines followed etc in developing an AI software.
- **Chapter 3: The Relationship Between Artificial Intelligence & Tortious Liability** – This chapter will deal with impact of AI on tortious liability, claims of liability arising out of operations of AI. This chapter will further enunciate the role of AI in determining the liability
- **Chapter 4: Issues of Liability with AI Systems** – This chapter will deal with the chalanges of determining the liability of AI systems and the difficulty of holding and individual accountable for an AI-related harm.
- **Chapter 5: Current Legal Framework for AI-related Harm** – This chapter will be dealing with exiting legal framework in different jurisdictions, along with the analysis of the adequacy of current framework. Further this chapter will deal with case studies of AI-related legal proceedings.
- **Chapter 6: Conclusion & Suggestion** – This chapter will include summary of the study along with the implications of study and limitations of the study as well. Further it will contain the recommendations and suggestions for future studies.

BIBLIOGRAPHY

BOOKS

1. Rodney D Ryder, Nikhil Naren in 'Artificial Intelligence and Law'
2. Artificial Intelligence for Humans by Jeff Heaton
3. Artificial intelligence and the law by Jan De Bruyne and Cedric Vanleehove

ARTICLES

1. Could AI Agents Be Held Criminally Liable: Artificial Intelligence and the Challenges for Criminal Law by Dafni Lima
2. Artificial Intelligence Crime: An Interdisciplinary Analysis of Foreseeable Threats and Solutions by Thomas C. King
3. AI and Tort Law-- Kristen Thomasen
4. Tort liability for artificial intelligence and expert systems by George S. Cole
5. Artificial intelligence and civil ability- do we need a new regime? Baris Soyer, Andrew Tettenborn

WEBSITES

1. <https://rsrr.in/2023/01/06/resolving-the-liability-dilemma-in-ai-caused-harms/>
2. <https://www.toppr.com/guides/legal-aptitude/law-of-torts/general-principles-of-liability-in-tort/#:~:text=The%20general%20rule%20of%20tort,refers%20to%20this%20vicarious%20liability>
3. <https://academic.oup.com/ijlit/advance-article/doi/10.1093/ijlit/eaad001/7039697>
4. <https://wires.onlinelibrary.wiley.com/doi/full/10.1002/widm.1312>
5. <https://repository.law.uic.edu/cgi/viewcontent.cgi?article=1416&context=jitpl>
6. <https://www.cambridge.org/core/books/abs/artificial-intelligence-and-the-law/tort-law-and-damage-caused-by-ai-systems/4465CEF9E3F2F49C9D44C7563569DA11>
7. <https://pubmed.ncbi.nlm.nih.gov/30767109/>
8. <https://blog.iplayers.in/artificial-intelligence-shift-liability/>

9. <https://www.reuters.com/legal/litigation/theories-ai-liability-its-still-about-human-element-2022-09-20/>
10. <https://www.lexology.com/library/detail.aspx?g=6c1bd354-d82e-483a-8569-03104a363c0c>
11. <https://journalofethics.ama-assn.org/article/are-current-tort-liability-doctrines-adequate-addressing-injury-caused-ai/2019-02>
12. [https://content.next.westlaw.com/practical-law/document/I7f0d14932f9b11e99687ad62ac048e9b/Artificial-Intelligence-and-Tort-Liability-The-Evolving-Landscape?viewType=FullText&transitionType=Default&contextData=\(sc.Default\)](https://content.next.westlaw.com/practical-law/document/I7f0d14932f9b11e99687ad62ac048e9b/Artificial-Intelligence-and-Tort-Liability-The-Evolving-Landscape?viewType=FullText&transitionType=Default&contextData=(sc.Default))