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# Liability for Crimes Involving Artificial Intelligence Systems

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# Preface

The idea of liability for crimes involving artificial intelligence systems has not been widely researched yet. Advanced technology makes society face new challenges, not only technological, but legal as well. The idea of criminal liability in the specific context of artificial intelligence systems is one of these challenges that should be thoroughly explored. The main question is who should be criminally liable for offenses involving artificial intelligence systems. The answer may include the programmers, the manufacturers, the users, and, perhaps, the artificial intelligence system itself.

In 2010 a few articles of mine were published in the USA and Australia on certain aspects of this issue. These articles explored the specific aspects that seemed to be important to open up an academic discussion on this issue. The main idea of these articles was that criminal law is not supposed to change technology, but should adapt itself to modern technological insights. They also called for thinking and rethinking the idea of imposition of criminal liability upon machines and software. Perhaps, no criminal liability should be imposed on machines, but if basic definitions of criminal law are not changed, this odd and weird consequence is inevitable.

Dozens of comments arrived for each article, and the time has come for narrow generalization of this idea. The first generalization of this idea was restricted to tangible robots, which are equipped with artificial intelligence software and commit homicide offenses as specific offenses and not through derivative criminal liability. Thus, my book *When Robots Kill* was published in 2013 in the USA by UPNE and Northeastern University Press. Although the book is academic, it made an attempt to address wider population other than legal academics.

The book was found innovative, and reviews were published in various places such as the Washington Post, the Boston Globe and the Chronicle Review. Dozens of comments arrived as well. Some of these comments called for the final and full academic generalization of this issue, not restricted to tangible robots, not restricted to homicide offenses and opened for derivative criminal liability. The need was for an academic professional textbook towards this issue, although it may not address to wide population. This book is the final and full academic generalization of this issue. The general idea expressed in this book relates to all types of advanced artificial intelligence systems, including both fully operational and planned systems, to all modes of criminal liability, including direct and derivative liability, and to all types of offenses.

The reader would find in this book a mature thorough theory towards the criminal liability for offenses involving artificial intelligence systems based on the current criminal law in most modern legal systems. The involvement of the artificial intelligence systems in these offenses may be as perpetrators, accomplices and mere instruments for the commission of the offense. One of the points of this book is that, perhaps, no criminal liability should be imposed on technological systems, at least yet, but if basic definitions of criminal law are not changed, this odd consequence is inevitable.

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# Liability for Crimes Involvi

The book develops a general lega
artificial intelligence systems. Th
these offenses may be as perpetrators, accomplices or mere instruments. The general legal theory proposed in this book is based on the current criminal law in most modern legal systems.

In most modern countries, unmanned vehicles, sophisticated surgical systems, industrial computing systems, trading algorithms and other artificial intelligence systems are commonly used for both industrial and personal purposes. The question of legal liability arises when something goes wrong, e.g. the unmanned vehicle is involved in a car accident, the surgical system is involved in a surgical error or the trading algorithm is involved in fraud, etc. Who is to be held liable for these offenses: the manufacturer, the programmer, the user, or, perhaps, the artificial intelligence system itself?

The concept of liability for crimes involving artificial intelligence systems has not yet been widely researched. Advanced technologies are forcing society to face new challenges, both technical and legal. The idea of liability in the specific context of artificial intelligence systems is one such challenge that should be thoroughly explored.

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