Chapter 7
Cyber Security Challenges and Dark Side of AI:
Review and Current Status

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ABSTRACT

Experts believe that cyber security is a field in which trust is a volatile phenomenon because of its agnostic nature, and in this era of advanced technology, where AI is behaving like a human being, when both meet, everything is not bright. Still, things are scarier in the next upcoming wave of AI. In a time when offensive AI is inevitable, can we trust AI completely? In this chapter, the negative impact of AI has been reviewed.

INTRODUCTION

Reminiscent of the year 1982 science fiction film '*Blade Runner*', in which the protagonist is dismayed to discover that the one he loves is not a human but a mutant. It was just a glimpse of what and how technology can do and up to which

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level. One vector of IT is Artificial Intelligence (AI) which is leading these days and has become the driving force of technology. AI is changing each segment of our daily life be it financial operation content writing online games or entertainment, no area of human life is untouched by the enormous growth of AI. This growth is so enormous that every age group is touched by AI in real life. The problem starts here as it is leading like a double-edged sword posing algorithms for better learning, production, prediction, detection, decision making, designing, planning, etc. but with negative impact in every sector where it is leading. Most of us encounter artificial intelligence in some way or the other almost every day. From the moment you wake up to check your smartphone, you start experimenting and experiencing AI. But what exactly is AI? Will this benefit mankind in the future? Well, Artificial Intelligence has lots of advantages and disadvantages. At the same time. Artificial intelligence is one of the best technologies in the world. It is made up of two words 'Artificial' and 'Intelligence'. It means "human-made thinking power. With the help of this technology, such a system can be created, which will be equal to human intelligence i.e., intelligence. Through this technology, learning algorithms, recognition, problem-solving, language, logical reasoning, Digital data processing, bioinformatics, and machine biology can be easily understood. Apart from this, this technology itself is capable of thinking, understanding, and working (Linardatos et al., 2020).

Artificial Intelligence Was Created in 1955

In 1955, John McCarthy officially introduced this technology. Artificial Intelligence was named. Let us tell you that John McCarthy was an American computer scientist. He defined Artificial Intelligence to make machines smart.

According to a study by Statista, the global AI market is set to grow by 54 percent every year [Statista Report 2022]. A report by Kaspersky Lab brings up the fact that technology and its negative effects go hand in hand and will grow in the future as the trends indicate (Rangone, 2023).

Type of AI

Reactive machines-based AI - These robots cannot retain historical data and do not base their judgments on previous experiences. It reacts by storing a small amount of data. For instance, IBM's "Deep Blue" chess-playing supercomputer upset legendary chess champion Garry Kasparov in 1997. The supercomputer could not store memory. Deep Blue controlled the game by observing the opponent's current move. (De Mántaras et al., 2023)