
I. Abstract

Artificial intelligence is one of the current topics, it can not be denied. At television, in commercials, works of fiction and in the mouth of everyone, everybody speaks about it. Myself was a big fan of science fiction (especially the *Ghost In The Shell* universe, which puts into action several artificial intelligences), I could not stop my curiosity on this subject for a long time. In my opinion, it seemed inevitable that my dissertation speaks of this subject. Of course, by focusing on it, one can quickly grasp the importance of data and information in an AI system.

The information war is not one of the current topics. This is a form of conflict who are old as the first existing conflicts, but it has been brought forward with the advent of IT science. Because of my job that I chose to do today, computers and information are an integral part of my life. I can easily see the importance of it. Difficult then not to ask the question of what could happen to the AI when it will be used to process information and communications.

My first research focused on the impact of artificial intelligence on information warfare (or infowar) to find out if this question had at least an interest to be raised, and if there were some elements of answers that could guide me in my research.

The subject, although approached, is only rarely in depth. I take for example the comparison from the book RIS 110 - SUMMER 2018, presenting technologies in the world of geopolitics, which combines artificial intelligence with a nuclear weapon in an information management framework, without really explaining why, or to what extent. To date, I have not found a document that can tell me the impact of using an artificial intelligence system in big data, for example, in the game of cat and mouse that is the infowar.

Recognizing the difficulties I had in finding satisfactory resources to help me understand what the impacts will be, I decided to separate the problematic in two themes. On the one hand, artificial intelligence and on the other, the infowar. In order to be able to answer my problem correctly, I think it is important to try to understand the two parts separately, before highlighting them.

What is artificial intelligence? why and how do we conduct research in this area? what principle is it designed for? what are these objectives and problems?

What is the information war? Why is it used? How? Who are these actors? What are these tools? In what area does it apply?

Finally, what can I conclude by having accumulated enough knowledge in these two areas?

This thesis will be built in three parts.

The first will be state of the art on artificial intelligence. Some pages will be done on its origin, to know why it was born and on what principle it is based.

We will see the difference between a weak AI and a strong AI. This will kill some of the false ideas that exist on artificial intelligence and support the fact that the AI we are talking about and using now is weak AI. The objectives of the AI will then be defined through the three task areas.

Finally, let's see what lies behind the terms "artificial intelligence". the different types of algorithm and model, then the data itself. A zoom will be made on data lakes, neural networks and deep learning, which are technologies widely used today.

The second part will be focused on the information war. A small precision will be made on the notion of "War", then we immediately define what "information". We will discuss the actors of this kind of conflict as well as the methods and techniques used. We will conclude on some examples of infowar between different actors.

Finally, the last part will be both the end of the state of the art, and the result of my research to define the impact of artificial intelligence technologies in the information war.

Now that AI and infowar are two domains a little more understood, we will define a series of domains, such as big data, decision-making, or natural language, and see what is used in terms of AI in these last ones.

Then we will define a framework, an information war, to examine how the AI can impact.