



About ethics in Artificial Intelligence

Innovation in information technology shows no sign of breathlessness, as evidenced by the constant development of new applications and their rapid adoption by consumers. Consequently, users have created, shared and stored data to a magnitude unprecedented in (modern) human history. It's therefore natural to wonder what to do with so much data, and with so much information? Among many possibilities, it made sense to think about making sense of this information, by identifying patterns, if any, and by applying such patterns in an intelligent manner, to predict or to add value to our activities. Practices such as Business Intelligence¹ and Artificial Intelligence² naturally emerged. For the matter, I believe that AI encompasses BI.

AI claims its objective is to improve human's decision-making processes and, ultimately, human's life. Therefore, AI enabled applications were developed and have proven to be appealing and effective for a variety of industries, from manufacturing, legal and paralegal research, pharmacy (processing of drug prescription); autonomous driving, communication and marketing, consumer's electronics to education and more. As a fact, those applications are undeniably successful at making (the routine of) human's life much easier without compromising the performance.

For any AI system to perform, it should demonstrate its ability to "learn" patterns and singularities from the data it interacts with, and in applying the new learnings without the need of programming. The fact that AI systems have been successful at doing that, hence demonstrating exceptional "learning skills", gets some of us to wonder, not only how far they can learn but, what can possibly come out from this learning process, since it's no longer "controlled" through programming.

The science teaches us that nothing is hard wired in human brain, not even emotions³. Scientific data show that our brain continuously learns from our experiences and from our interactions with our environment then, it proactively suggests actions and decisions, based on previous learnings. As AI enabled systems mimic human intelligence, they interact with, and learn from, the data we've generated

¹ **Business Intelligence (BI)** comprises the strategies and technologies used by enterprises for the data analysis of business information BI technologies provide historical, current and predictive views of business operations (ref. Wikipedia).

² **Artificial Intelligence (AI)** is the theory and development of computer systems able to mimic cognitive functions such as learning or problem solving. In other words, this term is applied to systems that are capable of performing tasks that normally require human intelligence, such as visual perception, speech recognition, decision-making, learning, etc.

³ Interesting ref. by Lisa Feldman Barrett - <https://lisafeldmanbarrett.com/books/how-emotions-are-made/>

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over the years, creating patterns we've never thought were possible. All this combined with their computing power, no one can predict the possible paths the data we produce can suggest. We may not even have the means to perform at that level, if we consider that that only 20% of the data available is searchable by humans, using all the tools and technique available today.

Far from us any idea of opposing the development of AI; instead, we join the discussion about ethics in AI. Not the ethics of AI systems as social and political entities, but the ethics applicable to those designing and manufacturing AI enabled systems. Although, specialists seem to agree that in all circumstances, robots or AI enabled systems, "...may not injure a human being or, through inaction, allow a human being to come to harm"⁴, there are some who argue in favor of an amendment, to add an exception in case of national security/defense for example. God knows how much harm was caused on behalf of national security. Regardless, assuming all players act in good faith, what happens in areas that we still don't fully understand, such as medical field? Let's think of a system designed to re-engineer DNA or to correct anomalies in genes: The only idea of allowing AI systems in this area is frightening, because we are adding the possibility of losing control, over an already unpredictable scenario. Let's not even raise the possibility of a player acting in bad faith.

Coming to a less dramatic scenario, few years ago, clients were convinced that providing personal and financial data to a financial institution, only allowed to run a formula that will then render the ratio that tells whether they qualify, or not, for a loan or another service. Today, systems are capable of suggesting so many scenarios, even processing data we may not even be aware they impacted us. Therefore the rulers of tomorrow are those who host the data. In other words, we provide the raw material that will be used to rule our lives and, with the introduction of AI Agents, humans most likely lose any hope of deciding, defining or controlling any aspect of their interaction with the institutions they deal with.

We believe it is the time to invest resources and to develop ethics in AI, which is vital to ensure we develop human friendly AI Agents and systems, as well as we empower individuals with the basics skills and resources, necessary to provide them with the best possible experience, when dealing with AI systems or AI Agents. Clickom has great hope it will learn and make significant contribution to the debate, from experiences derived from our newly established Artificial Intelligence/Virtual Reality practice.

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⁴ Isaac Asimov three laws of robotics - 1942

