

The definition of artificial intelligence (AI) is software or machines that demonstrate intelligence (Omar, Mehmood, Choi & Park, 2017). The use of artificial intelligence in data analysis is being highly debated. Numerous people would be affected if AI was to be used frequently in data analytics for healthcare. Whether it be directly or indirectly, the people affected will no doubt be concerned by issues such as data privacy and confidentiality, entrusting data analytics to artificial intelligence, and using AI as support for data analytics. The ability of AI to access and use data can provide the industry with many advantages (Ilic & Markovic, 2016).

As much as AI and data analytics work well together, we also need to keep in mind the risks and implications of eventually adopting AI into data analytics. The era of big data, rapidly increasing amounts of differing data calls for new methods of data management and processing (Storey & Song, 2017). Big data spark more research into the use of artificial intelligence for data analytics. With expeditious technological advancements and the growing volume of data, the use of AI becoming the norm in data analytics is not too far into the future. Data scientists currently in the industry and aspiring data scientists need to develop themselves to keep up with data and technology (Song & Zhu, 2016, Storey & Song, 2017). Additionally, the issue of ethical data use such as transparency and accountability are important to cogitate.

Artificial intelligence is said to pose a threat to jobs in data analytics as it is common to assume that AI will be able to work independently but the risk of violating data privacy is a concern.

Artificial intelligence will not be able to fulfil the roles of a human data scientist entirely nor will AI be able to handle data analytics on their own without humans. The creation and use of artificial intelligence are entirely dependent on whom we humans designed AI to be. With good intentions, AI can be programmed to excel and

bring about positive results (Bostrom, Good, Yudkowsky, as cited in Barret & Baum, 2016). Should artificial intelligence be programmed with the goal of being supports to data scientists in mind, AI can become a power and effective tool in data analytics. Using artificial intelligence in a discerning manner can help to back the use of AI in the industry (Omar et al., 2017). Artificial intelligence becomes a tool for data scientists to integrate into their work. The aptitude of artificial intelligence lies not in the quickening drawing information and conclusions but rather to assimilate information (Jha & Topol, 2018). The usefulness of artificial intelligence to data scientists is the efficacy in which AI handles the mundane parts to data analytics. On top of this, pattern recognition has already become a norm in simple everyday technology involving AI. It is noted that computers can be used for such commonplace procedures (Cai & Wang, 2016).

The debate is that, with all the advantages that artificial intelligence can provide the data analytics field with, is there still a need for more data scientists in the future or will human scientists be replaced entirely with their technology-created counter-parts. Many concern themselves with the likelihood of artificial intelligence replacing jobs in data analytics (Turchin & Denkenberger, 2018). Those who are less worried about the impending rise of unemployment rates conclude that humans will still be far superior than artificial intelligence. It is only humans that can turn raw data and information into useful knowledge and wisdom through means of inferences and team-based approaches (Jha & Topol, 2018, Kaulfus, Alexander, Zhao, Oster, O’Keefe, & Bartolucci, 2017). Artificial intelligence cannot completely understand and do what humans can in contributing to data analytics and information processing.

Many people rationalise that artificial intelligence will be able to take over our jobs from humans completely, data analytics is an area where artificial intelligence can easily outdo humans.

As aforementioned, the generation of data is in a stage where enormous amounts of structured and unstructured data are stored and processed to generate results and insights. The workload of data processing and analytics is increasingly stressing on humans due to the constant input and need of informative output (Song & Zhu, 2016). The pace of human data scientists and the time it takes to produce adept data scientists might be too long a time for data will start to pile up and congest.

Probabilistic frameworks allow machine learning to make predictions, formulate inferences by comparing past data to current data (Ghahramani, 2017). Probabilistic models make data handled by artificial intelligence useful since it becomes relevant information. AI being able to infer can conclude from data opens more pathways for recursive machine learning. Artificial intelligence can become more powerful and apt through self-learning quickly (Turchin & Denkenberger, 2018) which increases the gap between data scientists and artificial intelligence.

Artificial intelligence can one day easily suppress humans should they continue to improve as they are now. It is not too far away that AI becomes superior to humans (Gurkaynak, Yilmaz, & Haksever, 2016). Should artificial intelligence take over the industry one day, humans will need a way to adapt and incorporate with artificial intelligence (Omar et al., 2017) instead of fighting against the inevitable dawn of AI. Artificial intelligence may become preferable to data scientists in analytics if humans are deemed to have a lower work rate and are unable to evolve and develop their means.

Artificial intelligence can complicate the long-standing concern of data privacy and confidentiality.

There is an inherent need for confidentiality, and with the vast volumes of data used, it becomes a challenge as to how best tackle this issue. With more data used and processed, the privacy solutions entailed increases (Balthazar, Harri, Pratter, & Safdar,

2018). Since AI can perhaps become a powerful tool for data scientists to make use of; considerations for data privacy and confidentiality need to be made before artificial intelligence can be integrated into data analytics.

An AI far superior to humans, artificial superintelligence (ASI) can come to exist one day. Should such an advancement come to fruition, the risks will be increased tremendously (Barret & Baum, 2016). The use of ASI can mean that humans are hardly interacting with the software or AI and this becomes a security loophole since many things get overlooked easily. Since the use of artificial intelligence in data analytics is still new to the industry and not yet implemented, one might think that risk managing AI is still out of reach. However, data scientists and programmers of these AIs need to consider the use of AI for big data and how that can further complicate these issues (Balthazar, Harri, Pratter, & Safdar, 2018).

One good way of tackling the complex problem is to customise the way privacy threats is being tackled at each stage of AI development (Turchin & Denkenberger, 2018). The progression of artificial intelligence will proceed in stages, and for each stage, contingency plans should be established before implementation for use in data analytics. The risks of artificial intelligence causing breaches of data confidentiality amplifies with every progression in AI development (Yampolskiy & Spellchecker, 2016, as cited in Turchin and Denkenberger, 2018).

The use of artificial intelligence adds-on to worries of data use and privacy concerns. The risk of AI and confidentiality issues need to be managed accordingly to lessen doubts of using AI in data analytics.

Artificial intelligence can be a great tool to assist data analysts and user of such data to process data into knowledge and useful information. AI can help to lighten the

workload of data scientists and increase the speed of data processing and handling by reducing the time taken for routine, low-risk tasks.

However, data analysts need also improve themselves to keep up with the variant of data and fast-changing technology. It is vital for data scientists to develop themselves to be able to work alongside artificial intelligence. Additionally, we must also consider the risks and implications of using artificial intelligence to handle our data, such as the ethical use of data while considering privacy and confidentiality issues.

Indeed, there are perks to integrating artificial intelligence to work as data scientists, but there is first a need to build confidence in this new technology (Sollner, Hoffmann, & Leimeister, 2016, as cited in Omar et al., 2017). If risks are well-managed and artificial intelligence is appropriately implemented, AI can be well-used in data analytics.

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