Contributions of data science on society

Introduction

There is a growing body of literature that recognises the importance of data science and some of them claim that data science is changing our world and will have an influence on our life (Cukier & Mayer-SChoenberger, 2013; Davenport & Patil, 2012; The Economist Group, 2010). The central argument of this literature review aims to demonstrate that data science is different from previous data analysis and could produce a way of evaluation in all aspects of society. In order to determine the effect of data science on society, this essay is divided into three main sections. First, it will correct the misleading of data science. Second, the author will examine how data science trigger societal transform and finally, some conclusion will be drawn. Due to word limitation, this paper cannot discuss any specific theory of technology such as machine learning or algorithm.

Data science and society

Over the past few years, data science, as an emerging discipline, has been misunderstood for quite a long time. According to Conway (2010), data science consists of three main fields: hacking, math & statistic knowledge and substantial expertise. It is clear, however, that at that time practitioner underestimated the power of data science. For example, Davenport (2014) proposes that several terms, such as executive support, analytics, and business intelligence, are mainly used to describe the same process as data science, comprehending business activities. It can thus be indicating that, for analysts, data science is just another new name to traditional business analysis. This is an untenable point because data science not only conducts research in business field but also could investigate the information of whole society. Cukier and Mayer-SChoenberger (2013) support the view that datafication, an ability to transform all fields of world into data, is an important feature of data science. A number of examples of datafication are greatly novel such as sleeping time every night and your "Rate" on Netflix. As discussed above, there is a general agreement that compared with early data analysis, data science is a brand-new area. Because it can datafy almost every activity in our real world, rather than only focusing on business field, and extract knowledge or wisdom from numerous data to contribute to society conversely (Kitchin, 2014).

Having discussed whether data science can affect our society, I will now move on to investigate the contribution of data science on society. This writer would agree that data science creates a simple and convenient criterion to analyze and evaluate every aspect of life. According to O'Neil (2016), the term "proxy data" refers that data scientists generate a substitute for measuring phenomenon which cannot be quantified directly. For example, in certain countries, the research level of universities or institutes can be judged by the number of citations or paper they published. Another survey by Schutt and O'Neil (2013) also suggests that product preference of consumers may be reflected in shopping history data instead of using qualitative methods. Other studies also support similar findings of the application of GPS and smart city (Cukier & Mayer-Schoenberger, 2013; The Economist Group, 2010). These studies strongly reinforce the view that most social activities may well be rendered into quantitative material in order to analyse and obtain individual or social information.

Conclusion

The main goal of this literature review is to investigate how data science affects society. This study has provided the comprehensive description of data science contribution on civilisation and identified that data science is an original interdisciplinary and stimulates social order. However, an issue that was not addressed in the research was whether data science could cause social inequality. Because it is evident that big companies and government hold most sources and gradually they perceive data as a type of assets to control society or whole country. Further study needs to examine the respond of less powerful group in the face of the rise of data power.

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