The ICO and artificial intelligence: The role of fairness in the GDPR framework

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ABSTRACT

The year 2017 has seen many EU and UK legislative initiatives and proposals to consider and address the impact of artificial intelligence on society, covering questions of liability, legal personality and other ethical and legal issues, including in the context of data processing. In March 2017, the Information Commissioner’s Office (UK) updated its big data guidance to address the development of artificial intelligence and machine learning, and to provide (GDPR), which will apply from 25 May 2018.

This paper situates the ICO’s guidance in the context of wider legal and ethical considerations and provides a critique of the position adopted by the ICO. On the ICO’s analysis, the key challenge for artificial intelligence processing personal data is in establishing that such processing is fair. This shift reflects the potential for artificial intelligence to have negative social consequences (whether intended or unintended) that are not otherwise addressed by the GDPR. The question of ‘fairness’ is an important one, to address the imbalance between big data organisations and individual data subjects, with a number of ethical and social impacts that need to be evaluated.

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1. Introduction: artificial intelligence and the law

For the purpose of this paper, the term ‘big data analytics’ is intended to refer to forms of data processing using algorithms with datasets that are difficult to analyse (whether due to the volume of data, real-time processing (velocity), variety of data sources or otherwise), and ‘artificial intelligence’ and ‘machine learning’ are tools to unlock the value from such datasets.¹

The year 2017 has seen many legislative initiatives and proposals to consider and address the impact of artificial intelligence on society. These include the European Commission’s proposals for the EU to develop civil law rules on the use of robots and artificial intelligence², the UK House of Lords Select Committee’s call for evidence³, the UK government’s report on growing the artificial intelligence industry

² European Parliament resolution of 16 February 2017 with recommendations to the Commission on Civil Law Rules on Robotics (2015/2103(INL)).

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One of the key challenges posed by artificial intelligence concerns its autonomy. Can an artificial intelligence enter into contracts that are binding on its operator or owner? If an artificial intelligence can take independent decisions or can interact with other legal persons without the knowledge of its operator or owner, then to what extent should that operator or owner be liable for the actions of the artificial intelligence? The greater the level of autonomy that an artificial intelligence possesses, the more thorny these questions become.

In order to ensure that the risk of liability does not stifle innovation, there have been calls for artificial intelligence to be given some form of legal personality. On one end of the spectrum, there are commercial and legalistic arguments for granting legal personality to boost investment by solving some of the liability and contracting challenges. At the other end, there are compelling ethical and philosophical arguments for granting some form of 'robot rights' which would involve treating artificial intelligence as ethical beings with citizenship and other ethical rights (and obligations). In each case, any legislation implementing such changes would require careful consideration of how an artificial intelligence with legal personality would fit into existing laws and society as a whole.

Ethical concerns abound in relation to the impact of artificial intelligence on humanity, whether it is driverless cars taking life or death decisions on the roads or robots replacing human jobs. One body among many investigating the role of artificial intelligence in society is the Future of Life Institute, which counts Prof. Stephen Hawking and Elon Musk among its Scientific Advisory Board. Following its conference on artificial intelligence at Asilomar in January 2017, the Future of Life Institute published a list of principles for the development of artificial intelligence. The aim of the Asilomar AI Principles is to ensure that artificial intelligence (whether processing personal data or otherwise) is designed and developed for the benefit of humanity.

In terms of existing legislation, data protection is currently the key area of law dealing with the effects of machines on society. Not all artificial intelligence will involve the processing of personal data. However, machine learning and artificial intelligence software have valuable uses in processing personal data. Such uses often involve 'big data', whether for training purposes or as part of deployment. Examples include analysing student records and data from virtual learning environments to provide feedback, make targeted interventions and improve teaching materials or using public transport journey data to make better informed decisions about the transport network.

The UK Information Commissioner’s Office (the ‘ICO’) updated its paper on big data in March 2017 (with further minor updates later in 2017) to address developments in machine learning, artificial intelligence and the introduction of the General Data Protection Regulation (‘GDPR’). The rationale being that “big data is an asset that is difficult to exploit”, but artificial intelligence is “a key to unlocking the value of big data; and machine learning is one of the technical mechanisms that underpins and facilitates AI.” The 2017 paper was issued as guidance, and so is not binding, but it is a lengthy analysis and cites many academic and industry articles, setting out the ICO’s vision of how the processing of personal data using artificial intelligence fits into the GDPR framework.

This paper aims to critically explore the difficulties with the ICO’s analysis in its 2017 paper and to identify spaces where future regulation or guidance may be required. This paper aims to put such debates arising from an analysis of data processing into context, alongside wider concerns around the development and implementation of artificial intelligence. It is not the purpose of this paper to analyse the current state of technological progress in artificial intelligence.

2. The ICO’s analysis

2.1. The implications of artificial intelligence for data protection

In its 2017 paper, the ICO identified five distinctive aspects of big data analytics using artificial intelligence with implications...
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