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The impact of international data protection laws on artificial intelligence and deep learning

Clare Sullivan
Georgetown University, USA

This paper examines the data protection obligations imposed on businesses that use AI and deep learning to analyze big data, in the context of a more extensive international regulatory environment. The EU data protection requirement, particularly the new general data protection regulation (GDPR) is used as the basis for this inquiry because it is the model generally followed by most nations, the major exception being the US. As a consequence of the extraterritorial operation of the GDPR though, it will apply to all companies that process personal data of an EU subject. The GDPR significantly raises the stakes for organizations that use AI and deep learning but the practical implications of the technology do not sit well with the new legal requirements. Big data analytics often involve a discovery phase when algorithms are used to find correlations that are not known or predictable. The system determines relevant criteria by analyzing the data. When those correlations are determined, a new algorithm is created and applied to analyze the data in ways relevant to operational needs. The current state of the art in AI is deep learning which involves feeding large quantities of data through non-linear neural networks that classify the data based on the outputs from each successive layer. The inherent complexity of this processing makes it difficult to understand the reasoning behind AI decisions made as a result of deep learning. AI and deep learning do not sit well the reforms introduced by the GDPR which are based on transparency; and provide for human intervention, and the right for affected individuals to express their point of view, to obtain further information about the decision based on automated processing, and to contest the decision. This paper examines the challenges and potential pitfalls for organizations using AI and deep learning to inform corporate compliance.

cls268@georgtown.edu

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