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Experimentation with Personal Identifiable Information

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ABSTRACT

In this paper, actual personal identifiable information (PII) texts are analyzed to capture different types of PII sensitivities. The sensitivity of PII is one of the most important factors in determining an individual's perception of privacy. A "gradation" of sensitivity of PII can be used in many applications, such as deciding the security level that controls access to data and developing a measure of trust when self-disclosing PII. This paper experiments with a theoretical analysis of PII sensitivity, defines its scope, and puts forward possible methodologies of gradation. A technique is proposed that can be used to develop a classification scheme of personal information depending on types of PII. Some PII expresses relationships among persons, some specifies aspects and features of a person, and some describes relationships with nonhuman objects. Results suggest that decomposing PII into privacy-based portions helps in factoring out non-PII information and focusing on a proprietor's related information. The results also produce a visual map of the privacy sphere that can be used in approximating the sensitivity of different territories of privacy-related text. Such a map uncovers aspects of the proprietor, the proprietor's relationship to social and physical entities, and the relationships he or she has with others.

KEYWORDS

Personal Identifiable Information; Public Policy Issues; Privacy; Sensitivity

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