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A Blockchain-Based Protection Strategy against Social Network Phishing

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Abstract : Nowadays phishing is the most frequent starting point of cyber-attack vectors. Phishing is implemented both via email and social network messages. While a wide scientific literature exists which addresses the problem of contrasting email spam-phishing, no specific countermeasure has been so far proposed for phishing included into private messages of social network platforms. Unfortunately, the problem is severe. This paper proposes an approach against social network phishing, based on a non invasive collaborative information-sharing approach which leverages blockchain. The detection method works by filtering candidate messages, by distilling them by means of a distance-preserving hash function, and by publishing hashes over a public blockchain through a trusted smart contract (thus avoiding denial of service attacks). Phishing detection exploits social information embedded into social network profiles to identify similar messages belonging to disjoint contexts. The main contribution of the paper is to introduce a new approach to contrasting the problem of social network phishing, which, despite its severity, received little attention by both research and industry.

Keywords : phishing, social networks, information sharing, blockchain
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