Abstract:

As people are continually more active in social media, a plethora of information from individual users is released into the internet and, in most cases, discoverable by nearly any other user. This poses a problem because many account-recovery mechanisms depend on security questions to validate a user and hackers can infer a security question answer through an analysis of available information in social media. To address this issue, this paper describes an approach to enhance the quality of security questions by analyzing the information available in their social media. We developed an ontology to describe social and physical relationships and capture the information extracted from a social media and populates its corresponding Knowledge Graph. The user’s social media information is parsed using various Natural Language Processing techniques. The information stored in the graph will be used to look for answers for provided security questions. If a security question is answered using the information stored in the Knowledge Graph, the user will be notified that the provided security question is compromised.