ABSTRACT

AUTOMATIC DETECTION OF CYBER SECURITY EVENTS FROM TURKISH TWITTER STREAM AND TURKISH NEWSPAPER DATA

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Cybersecurity experts scan the internet and face security events that influence users, institutions, and governments. An information security analyst regularly examines sources to stay up to date on security events in her/his domain of expertise. This may lead to a heavy workload for the information analysts if they do not have proper tools for security event investigation. For example, an information analyst may want to stay aware of cybersecurity events, such as a DDoS (Distributed Denial of Service) attack on a government agency website. The earlier they detect and understand the threats, the longer time remaining to alleviate the obstacle and to investigate the event. Therefore, information security analysts need to establish and keep situational awareness active about the security events and their likely effects. However, due to the large volume of information flow, it may be difficult for security analysts and researchers to detect and analyze security events timely. There have been attempts to solve this problem both from an academic perspective and engineering purposes.

A recent challenge in this domain is that the internet community use different languages to share information. For instance, information about security events in Turkey is mostly shared on the internet in Turkish. The present thesis investigates the automatic detection of security incidents in Turkish by processing Twitter and news media. It proposes an automatic, Turkish specific software system that can detect cybersecurity events in real time.

Keywords: Cyber Security, Event Detection, Turkish, Twitter, Hurriyet Newspaper.