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Thanking You

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DECLARATION

We **Mahadevu M V,Shiva Prasad N,Yashas P & Prajwal H S,** hereby declare that this dissertation work titled **"A Data Analytics Approach to the Cyber Crime Underground Economy"** has been carried out independently by us under the guidance of **Soumya B**, Assistant Professor & Head, Department of Computer Science and Engineering, MRIT, Mandya in partial fulfillment of the requirement of the degree BACHELOR OF ENGINEERING in Computer Science and Engineering under VTU Belagavi.

We further declare that we have not submitted this dissertation either in part or full to any other university for the award of any degree.

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ABSTRACT

Despite the rapid escalation of cyber threats, there has still been little research into the foundations of the subject or methodologies that could serve to guide Information Systems researchers and practitioners who deal with cyber security. In addition, little is known about Crime-as-a-Service (CaaS), a criminal business model that underpins the cybercrime underground. This research gap and the practical cybercrime problems we face have motivated us to investigate the cybercrime underground economy by taking a data analytics approach from a design science perspective.

To achieve this goal, we propose (1) a data analysis framework for analyzing the cybercrime underground, (2) CaaS and crime ware definitions, and (3) an associated classification model. In addition, we (4) develop an example application to demonstrate how the proposed framework and classification model could be implemented in practice. We then use this application to investigate the cybercrime underground economy by analyzing a large dataset obtained from the online hacking community. By taking a design science research approach, this study contributes to the design artifacts, foundations, and methodologies in this area.

Moreover, it provides useful practical insights to practitioners by suggesting guidelines as to how governments and organizations in all industries can prepare for attacks by the cybercrime underground market where illegal services are provided to help underground buyers conduct cybercrimes, such as attacks, infections, and money laundering in an automated manner". Thus, CaaS is referred to as a do-it-for-me service, unlike crimeware which is a do-it-yourself product. Because CaaS is designed for novices, its customers do not need to run a hacking server or have high-level hacking skills.

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