## 

**Individual In-depth Report**

**Member name:** [Rahul Nayak](mailto:rrnayak@asu.edu)

**Evaluated by:** [Anuranjan Dubey](mailto:adubey37@asu.edu)

**Date: 09/09/23**

**Tasks Assigned:**

* In the previous week,I studied a paper related to various types of suspicious activities that go on social media. This week I plan on diving deep into a type of suspicious activity which is Malicious Profiles on social media.
* Studying the research paper "Malicious Profile Detection on Social Media: A Survey Paper” to address a new type of suspicious activity and methods to detect them.

**Summary:**

* This research paper is used to study the Malicious Profiles that are created on social media which is a type of suspicious activity that goes on in social media.
* A survey is conducted in the paper that fake profiles encompass a broad spectrum of suspicious activities, including the presence of bot accounts, spam accounts that disseminate unwanted content, and duplicate accounts that impersonate genuine users.
* Suspicious activities on social media, such as fake profiles, are a growing concern, and the paper addresses this by summarizing research efforts to detect and combat such activities.
* Major social media platforms like Facebook, Twitter, Instagram, and LinkedIn are affected by fake profiles that engage in malicious activities, distributing misleading information and harming users' privacy.
* In this paper three primary categories of features are examined for detection: user-based features (account name, followers/following count), content-based features (user posts and descriptions), and time-zone-based features (posting times). Additionally, graph-based features, analyzing user interactions, are discussed.
* The paper showcases various machine learning techniques, including support vector machines, random forests, neural networks, and decision trees, employed for fake profile detection across different social media platforms.
* The accuracy of these algorithms varies, with reported accuracy rates ranging from 84% to 95% depending on the dataset and approach used. Feature selection plays a crucial role in achieving accurate results.

**Outcome:**The outcome of reading this paper is to study in detail a type of suspicious activity that goes on social media which is “Malicious profiles on social medial ”. It delves into machine learning algorithms like Support Vector Machines, Naive Bayes, and Random Forests, illustrating their effectiveness in detecting such threats.

**References** *(with citation)*

[1] S. Shinde and S. B. Mane, "Malicious Profile Detection on Social Media: A Survey Paper," 2021 9th International Conference on Reliability, Infocom Technologies and Optimization (Trends and Future Directions) (ICRITO), Noida, India, 2021, pp. 1-5.

**Evaluation of Report**

**Evaluation summary with justification.**

This research paper examines malicious profiles on social media, encompassing bot accounts, spam, and impersonation. The paper provides valuable insights into combating social media threats.

**The quality of the major result(s) with justification.**  
The major results in this paper, focusing on malicious profile detection using various machine learning methods, are of high quality, as indicated by reported accuracy rates of 84% to 95%. These results offer a robust foundation for addressing social media threats.

**The usefulness of the paper to the overall project.**   
The paper greatly bolsters the project by offering crucial insights and effective ML methods for countering social media threats.

**Other comments**

**Evaluation Approval  
  
Evaluation by:** [Anuranjan Dubey](mailto:adubey37@asu.edu) **Date: 09/10/2023**

**Is the written report of the in-depth study complete with all the major result(s) of the paper(s)? If not, provide as many examples of the major result(s) missing in the written report as possible. (in bullet form). [Normally within 100 words]**

* The written report appears to comprehensively summarize the major results of the paper on suspicious behavior detection.
* It emphasizes the paper's focus on detecting suspicious activities through diverse machine learning algorithms.
* The summary mentions the paper's relevance, content, and its bridging of theory and practice.
* No major results appear to be missing from the report.

**Is each section of the guidelines sufficiently completed? If not, point out what is missing. [Normally within 40 words].**

Yes, each section of the guidelines is sufficiently completed.

**Is the quality of this version of the written report satisfactory? If not, then why not? [Normally within 40 words]**

Yes.

**Approval.  
  
Approved by:** [Gautham Vijayaraj](mailto:gvijaya6@asu.edu) **Date: 09/11/2023  
  
Is the quality of this written in-depth study report and Evaluation report satisfactory? If not, then why not? (limit: 40 words)**

No improvements required. The in-depth report and evaluation report contain sufficient information and they are satisfactory.