**Individual In-depth Report**

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**Evaluated by:** [Krupaben Kothadia](mailto:kkothadi@asu.edu)

**Date: 09/04/2023**

**Tasks Assigned:**

* Focus on my question to work upon as my area of research for this project.
* The question I chose was to do my research and find a system that maintains the balance between detecting suspicious activity in social media and safeguarding the user's privacy and maintaining data integrity.
* Review of [**An Overview of Privacy Preserving Data Mining**](https://drive.google.com/file/d/1XipNBU2_EKn2yklo7fJbQaWyXa1nXMy4/view?usp=drive_link)

**Summary:**

* The main focus area of this paper is to find different methods of maintaining privacy while performing data mining. Since data mining can extract large volumes of data, they can also be susceptible to identity theft and data insecurity.
* Thus to preserve privacy, secured data mining techniques and privacy preserving data mining algorithms would be explored in this paper.
* The study intends to find the algorithms which comes under two main aspects:
  + Guarantees that private and sensitive information wouldn’t be revealed, so in order to achieve this, existing data that is extracted must be excluded or revised.
  + Figure out how to make the data excavation system or algorithm more efficient which requires a privacy protection algorithm that revises the original data and at the same time improves the existing data mining algorithms.
* The study reveals that the research of privacy protection methods are summarized by either performing privacy preserving data mining algorithms or using privacy protection technologies.
* The list of **privacy preserving data mining algorithms** discussed were :
  + Data Distribution
  + Data Distortion
  + Data Mining Algorithms
  + Data Hiding
* The list of **privacy protection technologies** discussed were :
  + Data Distortion Techniques
  + Distributed Privacy Preserving Mining
  + Reconstructed Technology
  + Anonymous Privacy Protection

**Outcome:**

* Privacy protection methods such as distortion, encryption, privacy and anonymity are discussed.
* Yet, some unresolved issues remain:
  + Mobile and data stream mining regarding privacy is uncharted territory.
  + Incremental privacy protection data release requires rethinking data mining algorithms for incremental data processing.

**References** *(with citation)*  
  
[5] Xinjun Qi, Mingkui Zong, “An Overview of Privacy Preserving Data Mining,” in *“International Conference on Environmental Science and Engineering (ICESE)”*, Harbin, China, 2011, pp.1341-1347

**Evaluation of Report**

**Evaluation summary with justification.**

This report covers the major points given in the article regarding classifying suspicious content on social media and the methods or techniques that can be useful. This report also explains the steps necessary to complete this process proposed in the research.

**The quality of the major result(s) with justification.**  
Results from this research include an in-depth explanation of methods used in machine learning for classifying suspicious content, which are helpful and relevant to the goal of this project. Given in the research as well is an analysis between the Naive Bayes and Random forest classification algorithms with results.

**The usefulness of the paper to the overall project.**   
This paper will provide the project with detailed explanations to methods used in machine learning to classify suspicious content.

**Other comments**

None

**Evaluation Approval  
  
Evaluation by:** [Krupaben Kothadia](mailto:kkothadi@asu.edu) **Date: 09/04/2023**

**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]**

Yes.

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

Yes.

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

Yes.

**Approval.  
  
Approved by:** [Krupaben Kothadia](mailto:kkothadi@asu.edu) **Date:** 09/04/2023 **Is the quality of this written in-depth study report and Evaluation report satisfactory? If not, then why not? (limit: 40 words)**

Yes, the quality of this written in-depth study report and Evaluation report is satisfactory.