**Individual Report**

**Member name:** [Gautham Vijayaraj](mailto:gvijaya6@asu.edu)

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

**Date: 09/10/2023**

**Tasks Assigned:**

* Preparing an individual in-depth report.
* Preparing an individual progress report.
* Preparing the Gantt Chart.
* Evaluating the individual progress report report prepared by [Krupaben Kothadia](mailto:kkothadi@asu.edu)
* Evaluating and approving the Weekly Report.
* Approving 4 team members in-depth reports if there are any.
* Approving 4 team members' research domain and their research papers.
* Approving a reference paper for [Yeshwanth Reddy Chennur](mailto:ychennur@asu.edu) to work on.
* Organizing Google Drive.
* Taking meeting notes.

**Summary:**

* My area of research focuses on maintaining the balance between the efficiency of the data mining technique to detect threats as well as safeguarding the data integrity and user privacy of Social Media.
* An In-Depth study of [**Privacy-Preserving Data Mining: Why, How, and When**](https://drive.google.com/file/d/1JF6NG6eQJ1_Y9zLhEyODuRKGJUtQuPMf/view?usp=drive_link) has been conducted.
* The main focus area of this paper is to find how technology from the security community can change data mining for the better, providing all its benefits while still maintaining privacy.
* Most data mining applications operate under the assumption that all the data is available at a single central repository, called a data warehouse. This poses a huge privacy problem because violating only a single repository’s security exposes all the data.
* The following approaches to prevent disclosure of data from data mining:
  + Data Perturbation - Modifying the data so that it no longer represents real individuals. Uses Randomization to modify data extracted from datasets.
  + Randomization - Produces random samples from the set of data matrices satisfying the already discovered patterns or models.
  + Secure multiparty computation - Based on the idea that every piece of private information is validly known to one or more parties.
  + Association rule mining - Finds interesting associations and relationships among large sets of data items. Used in SCM approach to demonstrate protocol.

**Outcome:**

The main focus area of this paper is to find different approaches to privacy data mining. The above approaches of data mining don't cause, or even increase the opportunity for, breaches of privacy because only selected parties have access to the data. However, further research is required to increase multi-level security and increase accuracy in terms of efficiency.

**References** *(with citation)*  
  
[7] J. Vaidya, C. Clifton, “Privacy-preserving data mining: why, how, and when”, in *“IEEE Security & Privacy, Vol 2, Issue 6”*, USA, 2004, pp.19-27

**Evaluation of Report  
  
Evaluation by:** [Krupaben Kothadia](mailto:kkothadi@asu.edu) **Date: 09/11/2023**

**Is the weekly member report 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). [within 100 words]**

* Yes, the two different approaches to perform secured data mining techniques used in the paper have been mentioned in 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, the quality of this version of the written report is satisfactory.

**Approved by:** [Krupaben Kothadia](mailto:kkothadi@asu.edu) **Date:** 09/11/2023