**Individual Report**

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

**Date: 10/2/2023**

**Tasks Assigned:**

* Evaluating and approving the Gantt Chart.
* Preparing an individual in-depth report.
* Preparing an individual progress report.
* Evaluating and approving 4 team members’ individual progress and in-depth reports.
* Assigning Tasks along with the Group Leader
* Evaluating and approving Weekly Report
* Taking meeting notes
* Organizing group meetings

**Summary:**

* All the tasks have been completed successfully. These include assigning tasks, preparing the in-depth report, individual progress report, evaluating and approving the weekly report, approving and evaluating the Gantt chart, approving 4 team members’ in-depth reports and progress reports, taking meeting notes and organizing the group meetings.
* An In-Depth study of [**Data Mining Approach for Anomaly Detection in Social Network Analysis**](https://drive.google.com/file/d/1BSRlKQV-C77yN9aP7ccNfmVOTVLWKtaU/view?usp=drive_link) has been conducted.
* The main focus area of this paper is to discuss an approach for anomaly detection in Online Social Networks (OSNs) using data mining techniques.
* This analysis is carried out using Facebook dataset. It mentions profiling user social behavior by analyzing user updates, messages, clickstreams, photo uploads, posts, and comments.
* DATA MINING APPROACHES TO ANOMALY DETECTION :
  + **Supervised Method** – treats the problem as a classification task with pre-labeled data, distinguishing between normal and anomalous observations.
  + **Semi-Supervised Method** – builds a model based on normal data to create a profile of normal activity. These methods work with both labeled and unlabeled data. They are useful when only a few instances of labeled normal data are available.
  + **Unsupervised Method** – trains an anomaly detection model using unlabeled data that includes both normal and abnormal instances. They are employed when labeled data with predefined labels like "anomalies" or "normal" are unavailable.

**Outcome:**

The paper presents a method for identifying anomalous users in Facebook based on their behavioral dissimilarity using outlier detection. It also offers a visual explanation technique. The analysis assigns risk scores to users, with greater behavioral divergence indicating higher risk. This evaluation assesses the method's effectiveness in Facebook data. The reference paper’s outcomes align with our overall project goal.

**References** *(with citation)*  
  
[8] M. S. Sudha, K. A. Priya, A. K. Lakshmi, A. Kruthika, D. L. Priya and K. Valarmathi, "Data Mining Approach for Anomaly Detection in Social Network Analysis," *2018 Second International Conference on Inventive Communication and Computational Technologies (ICICCT)*, Coimbatore, India, 2018, pp. 1862-1866, doi: 10.1109/ICICCT.2018.8472985.

**Evaluation of Report  
  
Evaluation by:** [Krupaben Kothadia](mailto:kkothadi@asu.edu) **Date: 10/2/2023**

**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 weekly member report is complete with all the major results of the paper. The report outlines the successful completion of various tasks, including data mining approaches for anomaly detection in Online Social Networks (OSNs) using a Facebook dataset. It discusses supervised, semi-supervised, and unsupervised methods for anomaly detection, showcasing a comprehensive understanding of the paper's core content. The mention of profiling user social behavior and the focus on analyzing user updates, messages, clickstreams, photo uploads, posts, and comments reflect a thorough examination of the paper's main findings and contributions in the context of anomaly detection in OSNs.

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

Yes, all sections of the guidelines have been duly completed. Tasks, reports, and analysis of anomaly detection in Online Social Networks using data mining approaches, including Supervised, Semi-Supervised, and Unsupervised methods, were carried out effectively, using Facebook data for user behavior profiling.

**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 report is satisfactory for our project of "Detection process of Suspicious Activities in Social Media Using Data Mining and Machine Learning." It covers task completion, OSN anomaly detection using data mining, and relevant methods.

**Approved by:** [Krupaben Kothadia](mailto:kkothadi@asu.edu) **Date: 10/2/2023**