Project Progress Report

(Group – 04)

Week 3: June 26 – July 2, 2025

1. Modification of Bipartite Graphs

We improved the implementation of Bipartite Graphs by replacing the manual input of interactions between two nodes with a sample dataset suitable for bipartite graph structures.

2. Task Selection Mechanism

A task selection feature has been added, allowing users to choose a specific graph-based task from the list of implemented options. This improves user interaction and task-specific configuration.

3. Model and Dataset Argument Integration

After selecting a task, the user can now specify the model and dataset as command-line arguments. This provides flexibility and improves the automation and usability of the system.

4. Addition of GAT and GraphSAGE

Two additional models, Graph Attention Network (GAT) and GraphSAGE, were integrated into the framework. These models are now supported across the implemented graph-based tasks, enhancing the system's versatility.

5. Link Prediction Using Different Models

We successfully executed the Link Prediction task using three models:

- GCN
- GAT
- GraphSAGE

Each model was tested using appropriate datasets to evaluate their performance on the link prediction task.