Project Progress Report

(Group – 04)

Week 4: July 02 – July 09, 2025

1. Node Classification

We implemented Node Classification using all three previously implemented models. The Cora dataset was used as the sample dataset to evaluate the model performance on this task.

2. Node Regression

Node Regression was implemented across all three models using a built-in dataset from Torch Geometric as a test dataset. This task demonstrates the models' ability to predict continuous values at node-level.

3. Node Embedding

Node Embedding was implemented using the same Cora dataset. All three models were used to generate meaningful low-dimensional representations of the graph nodes.

4. Node Clustering

Based on the embeddings generated in the Node Embedding task, Node Clustering was implemented. This allowed for unsupervised grouping of nodes based on learned features.

5. Edge Classification

We implemented Edge Classification using a modified version of the Cora dataset, preprocessed to support edge-level labels and features.

6. Edge Regression

Edge Regression was implemented using a modified form of the previously used MovieLens dataset, which was initially used for Link Prediction. This task evaluates the models' ability to predict continuous values on edges.

7. Graph-Level Task Progress

We have started implementing graph-level tasks, beginning with Graph Classification. While progress has been made, the task is currently incomplete due to encountered errors during implementation. Work on graph-level tasks will continue into the following week.