**PARALLEL AND DISTRIBUTED SYSTEMS**

**FINAL PROJECT - DAG**

**Introduction:**

The final project is Graph Search using DAG (Directed-acyclic graph). In DAG each node is represented with some ID and its VALUE. In that, we count the occurrence of a given number at node value in DAG. Multiple nodes can have same or different value. All the nodes are visited in Breadth-first manner.

I performed this using programming in C++. Starting with sequential approach and parallelizing it later. The same solution is also done using FastFlow library.

While coding the parallel form, I considered the FARM design pattern with some sort of JOB Stealing mechanism that we studied in the course. A queue is shared with all the threads workers and data is popped and pushed into it for processing and the visited queue take the record of the nodes that have been visited already. This is the overview of the internal working of the system and will be detailed in later sections.

**Files Structure:**

The code zip file or github repo contains the code of this project.