PA1 Progress

Coordinator Node:

- Communication in training between the coordinator and compute nodes is done

- In train() steps, we've implemented all the steps except considering the conditions of concurrent running of multiple compute node (such as using mutex to prevent a race condition.)

- Scheduling policy has not been implemented.

- Coordinator scheduling: Rejecting task and injecting load have not been implemented.

Compute Nodes: done

Client: done

Design Document: not yet

Phase 1 result:

Using the following parameters:

training filename = "train_letters1.txt"

k = 26 h = 20 eta = 0.0001 epochs = 75

rounds = 1

Validation error is 0.789714

```
yang8919@csel-plate01:/home/yang8919/PA1-bai10416-yang8919-yahui/client/build $ ./client csel-cuda-02 5105 /home/yang891
9/PA1-bai10416-yang8919-yahui 1 75
Connected to server!
Validation error: 0.789714
Connection closed.
```

Use of AI Tools: Part of the thread_func() function in Coordinator_server.cpp is generated using OpenAI (Lines 104-112 in Coordinator_server.cpp).

Justification: The section generated is brief and implements transport functionality such as establishing a socket connection with compute nodes.