

Cerberus: Federated Learning (FL) setup implemented in C

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For code specification please look at `report/CODE_SPECIFICATION.pdf`.

Parameters used to obtain the further mentioned results, the aforementioned parameters are taken from the file `report/params.config`.

Parameter	Value	Description
input_size	784	The number of input features (e.g., for MNIST, it represents 28x28 pixel images).
hidden_size	128	The number of neurons in the hidden layer of the neural network.
output_size	10	The number of output classes (e.g., for MNIST, it represents 10 digits).
port	3000	The port number used for communication or networking.
learning_rate	0.01	The learning rate for training the model, controlling the step size during optimization.
local_epochs	10	The number of epochs (iterations over the dataset) to train the model on each client locally.
log_train_metrics	1	A flag (1 or 0) to enable or disable logging of training metrics during training.
num_clients	3	The number of clients participating in a distributed training setup.
global_epochs	10	The number of global epochs (iterations over the dataset) for the overall training process.

Table 1: Parameters configuration and description

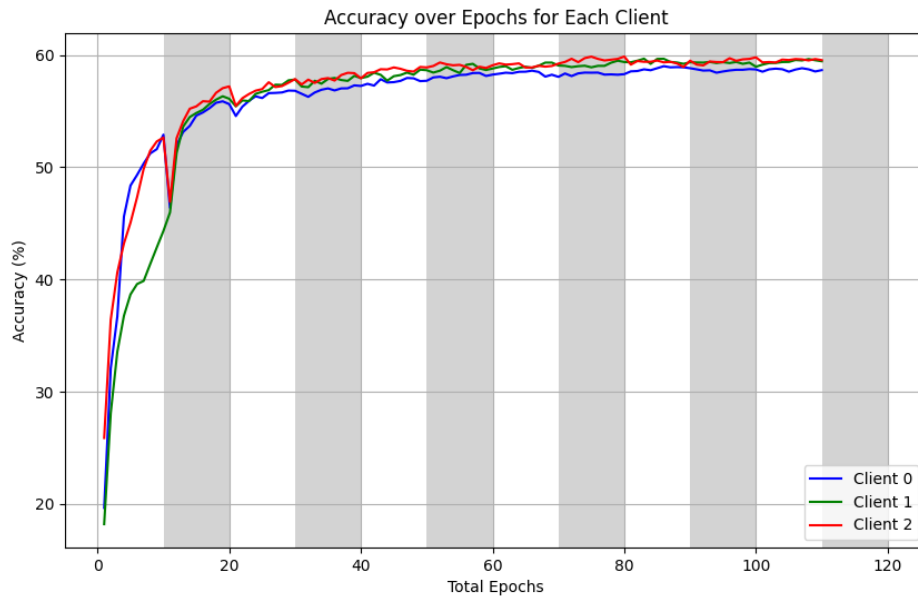


Figure 1: Accuracy vs Epoch plot for all the clients. The gray white blocks define the transition from one global epoch to another.

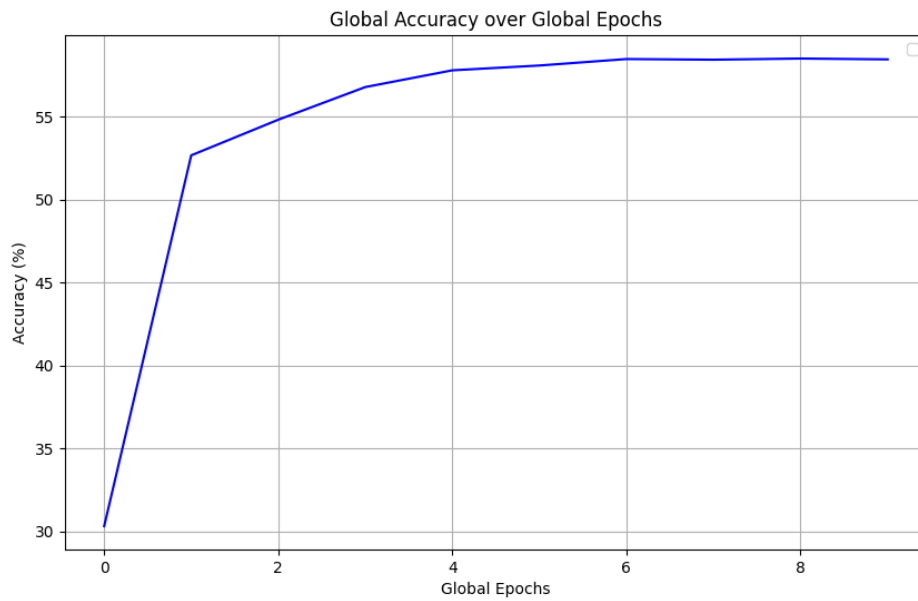


Figure 2: Global Accuracy vs Global Epoch plot