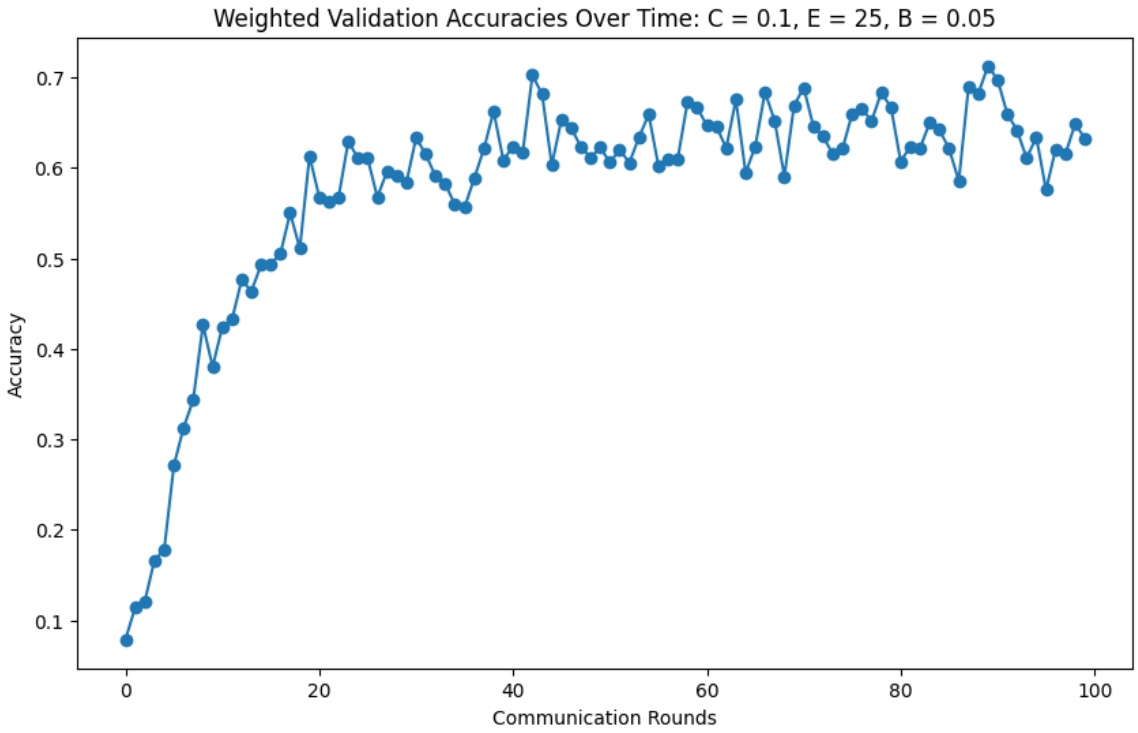
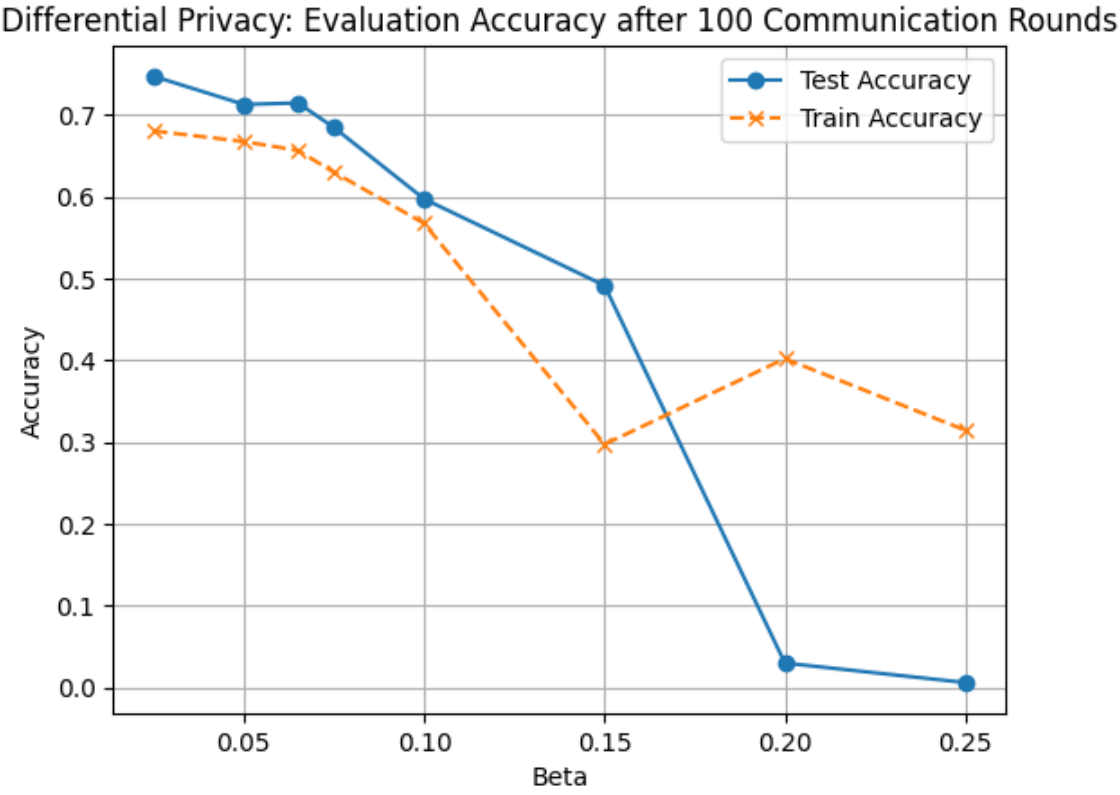
David McDevitt
MLDS Reinforcement Learning/Advanced Algorithms
HW3 - Part 2 Report
11/25/2023

Part 1



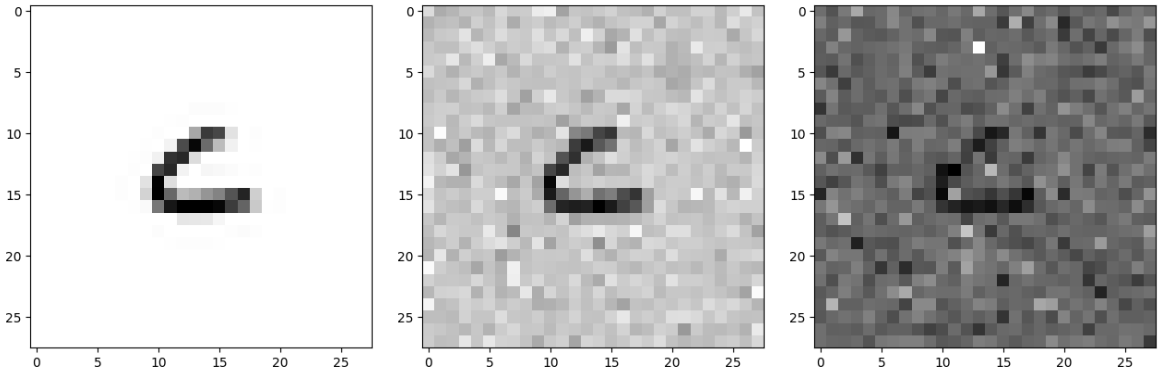
Test Accuracy: 70.3%

Part 2



Part 3

Training and test accuracy were evaluated after 100 communication rounds where each client trained for 25 epochs before sending their model weights back to the server. Accuracy declines rapidly as noise perturbation levels increase, failing to learn any meaningful representation of its input data by β = 0.2. A noise perturbation of β = 0.065 would be the ideal for preserving the quality of the trained model, but such a perturbation does not obscure the written digits in any visibly meaningful manner.



β = 0 β = 0.065 β = 0.2