PET and Federated Learning

Federated Learning is one PET (privacy enhancement technology) to train a model. The cost of federated learning on devices is high and tuning cycle is slow because user devices need to be qualified and get involved in the process (e.g., with charger and WIFI connected, with labels). To reduce the cost and tuning time, we use three steps, 1) traditional machine learning with synthetic or public dataset, 2) federated learning simulation, 3) and device training.

Model Preparation Steps

Common process in different steps

Prediction steps. Those wrappers can be reusable for different models while we can replace the base model (core of the models) for different tasks.

Model Preparation for Federated Learning and Device Computation

Knowledge Sharing for Applied Federated Learning at Scale

References

