

Core Fundamentals of Federated Learning and Machine Unlearning - Week 2

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Environment Configuration

1. Create Conda environment

```
PS C:\Users\phoen> conda --version
conda 25.9.1
PS C:\Users\phoen> conda create --name fl-unlearn-research-project python=3.9
```

2. Install PyTorch

```
(fl-unlearn-research-project) PS C:\Users\phoen> conda install pytorch torchvision -c pytorch
```

3. Install auxiliary libraries

```
(fl-unlearn-research-project) PS C:\Users\phoen> conda install numpy pandas matplotlib jupyter notebook
```

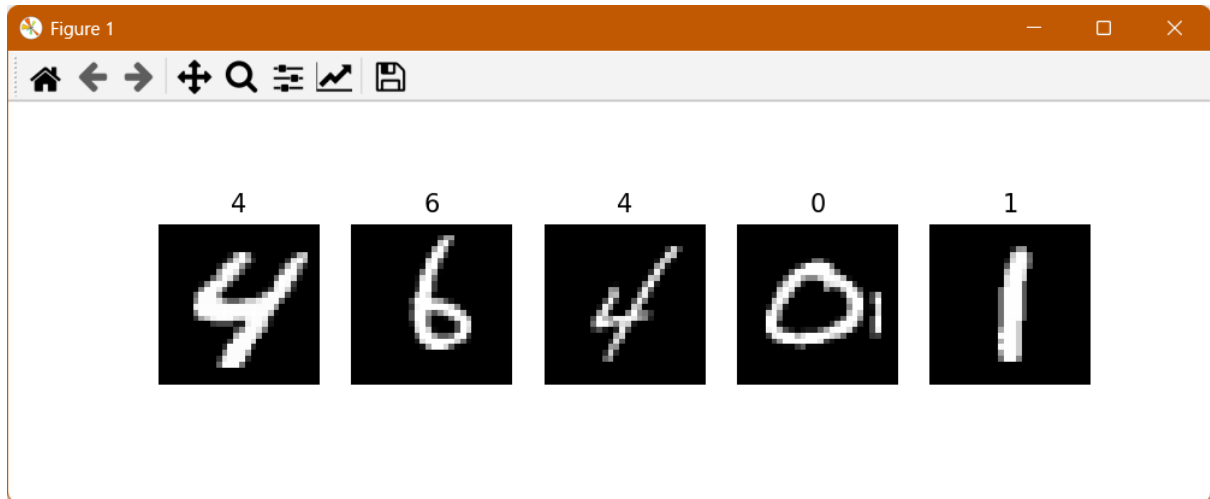
4. Environment verification

```
• (fl-unlearn-research-project) PS C:\Users\phoen\federated-learning-unlearning-research\Week 2> python .\hello-world.py
Testing packages...
OK - NumPy 2.0.1
OK - Pandas 2.3.3
OK - Matplotlib
OK - PyTorch 2.5.1
OK - TorchVision 0.20.1
OK - Jupyter
Test completed.
```

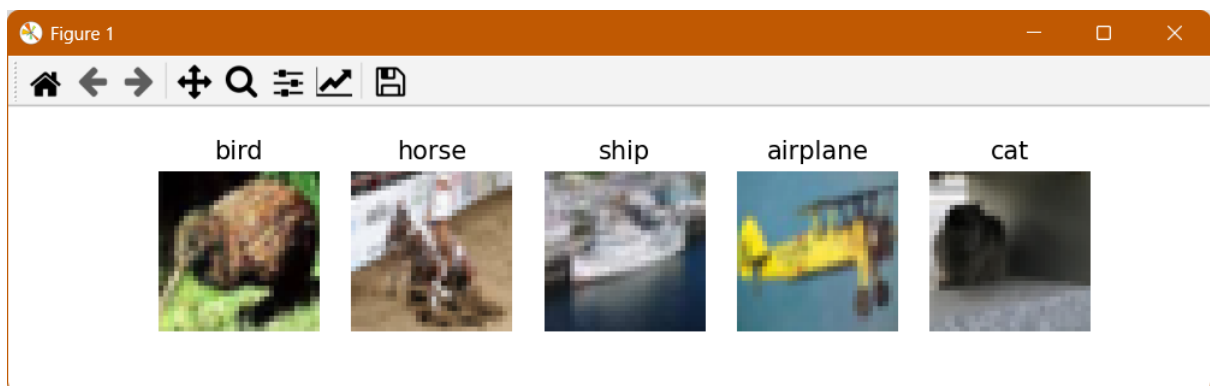
Dataset Loading

Script is attached

Five sample images from the MNIST dataset



Five sample images from the CIFAR-10 dataset



FedAvg Workflow Diagram

