

# Core Fundamentals of Federated Learning and Machine Unlearning - Week 2

Phoenix Asange-Harper

## 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
```

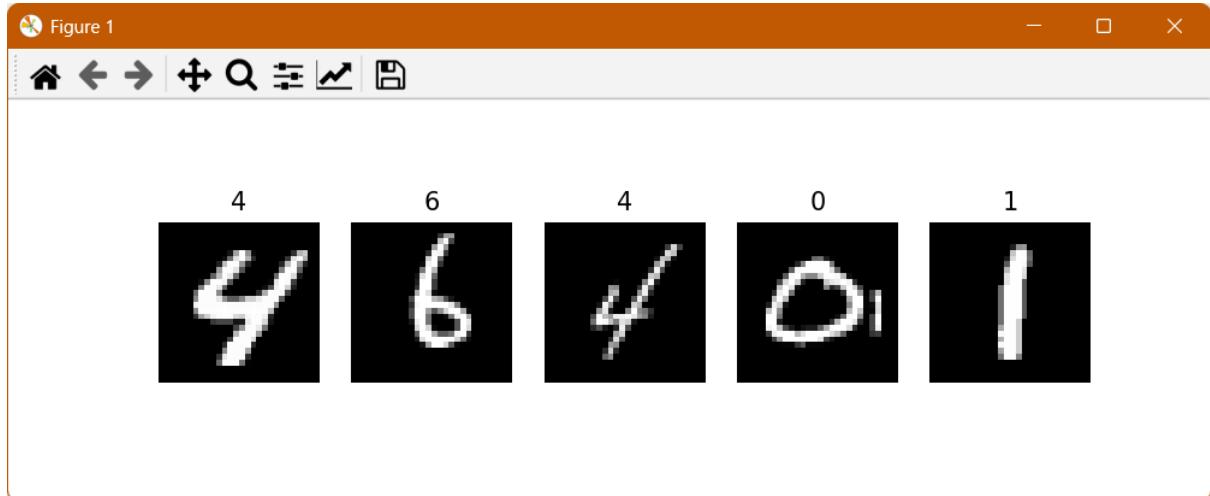
### 4. Environment verification

```
● (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.
```

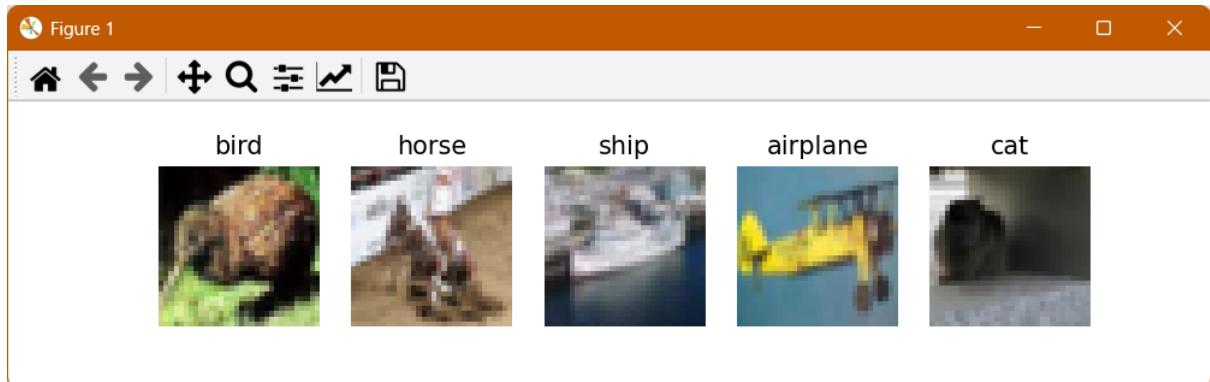
## Dataset Loading

Script is attached

Five sample images from the MINST dataset



Five sample images from the CIFAR-10 dataset



# FedAvg Workflow Diagram

