

## PyTorch Installation Guide (uv + VS Code)

### 1. Install uv (Python package manager)

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Run this PowerShell command:

```
powershell -ExecutionPolicy ByPass -c "irm https://astral.sh/uv/install.ps1 | iex"
```

### 2. PyTorch Installation

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#### A) CPU-only Installation

```
uv pip install torch torchvision torchaudio --index-url https://download.pytorch.org/whl/cpu
```

#### B) GPU Installation (CUDA)

Preferred (CUDA 12.6 backend):

```
uv pip install torch torchvision --torch-backend=cu126
```

Fallback (CUDA 12.4 explicit wheels):

```
uv pip install torch torchvision torchaudio --index-url https://download.pytorch.org/whl/cu124
```

### 3. Note about Google Colab

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We will not use Google Colab in upcoming classes because:

- It has issues with Firefox and Edge.
- Sometimes opens VS Code .ipynb files as raw JSON.
- Kernel instability and random execution bugs.

### 4. Installing Python Kernel for VS Code

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```
uv pip install ipykernel
```