

Environment creation

```
python -m venv .venv && source .venv/bin/activate
pip install -U mlx mlx-vlm datasets pillow
pip install opencv-python soundfile
```

(optional) for video/audio VLMs and have ffmpeg on PATH if you'll touch video/audio

to train using lora

```
mlx_lm.lora \
  --model nightmedia/Qwen3-4B-Thinking-2507-bf16-mlx \
  --data data/custom \
  --train \
  --fine-tune-type dora \
  --batch-size 100 \
  --num-layers 16 \
  --iters 500 \
  --adapter-path Fine-tuned_models/adapters/qwen3_maze_dora
```

merge lora adapter as standalone model:

```
mlx_lm.fuse \
  --model nightmedia/Qwen3-4B-Thinking-2507-bf16-mlx \
  --save-path Fine-tuned_models/models/qwen3_maze_thinking \
  --adapter-path Fine-tuned_models/adapters/qwen3_maze_dora
```