

10,000 samples

GPU	Time per Batch	Time/Epoch	10 Epochs	20 Epochs
A100	~0.06 sec	~1.3 minutes	13 minutes	26 minutes
L40S	~0.08–0.12 sec	~1.6–2.5 minutes	~16 – 25 minutes	~32 – 50 minutes

1,00,000 Samples

GPU	Time per Batch	Time/Epoch	10 Epochs	20 Epochs
A100	0.03s	~6.3 minutes	63 minutes	126 minutes
L40S	0.05–0.08s	~10–17 minutes	~100 – 170 minutes	~200 – 340 minutes

VRAM

GPU MODEL	VRAM SIZE
A100	40GB
LS40	25/40GB
T4- Colab	16GB
MPS	8GB

F32

- 1) Model weights= $4 \times 0.082 = 326\text{MB} \times 1.2$ (buffer)= 390MB
- 2) Memory = 390 MB

3) Optimizer= $2 \times 4 \times 82 = 1.3\text{GB}$

4) Activation(estimate)= Batch*Length* Hidden Layer*(Encoder+Decoder)* FP

$$= 8 \times 512 \times 512 \times (6+6) \times 4\text{B} \approx 1.3\text{GB}$$

5) Caching approx.= 1GB

Total Approx = 5-6 GB

Similarly with using FP16 it is approx. 3- 4 GB