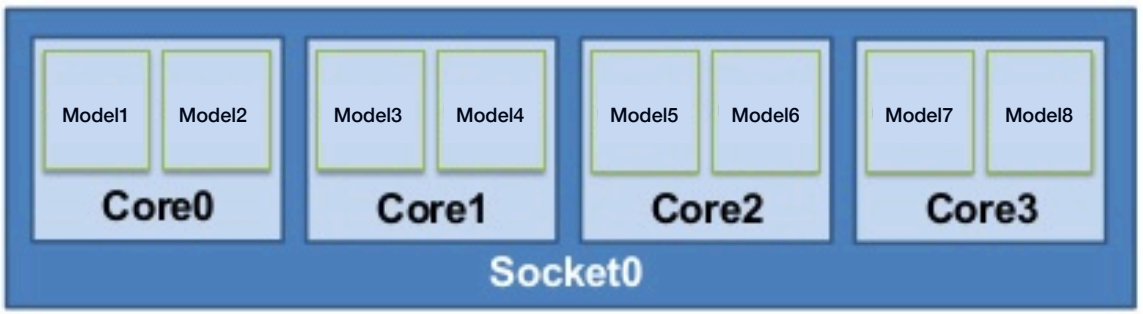
Parallel Training on CPU Threads

- Train **one distinct model per thread**
- Create as many Ray tasks as your CPU threads (24)
- 2hr scan evaluated **27 NNs**

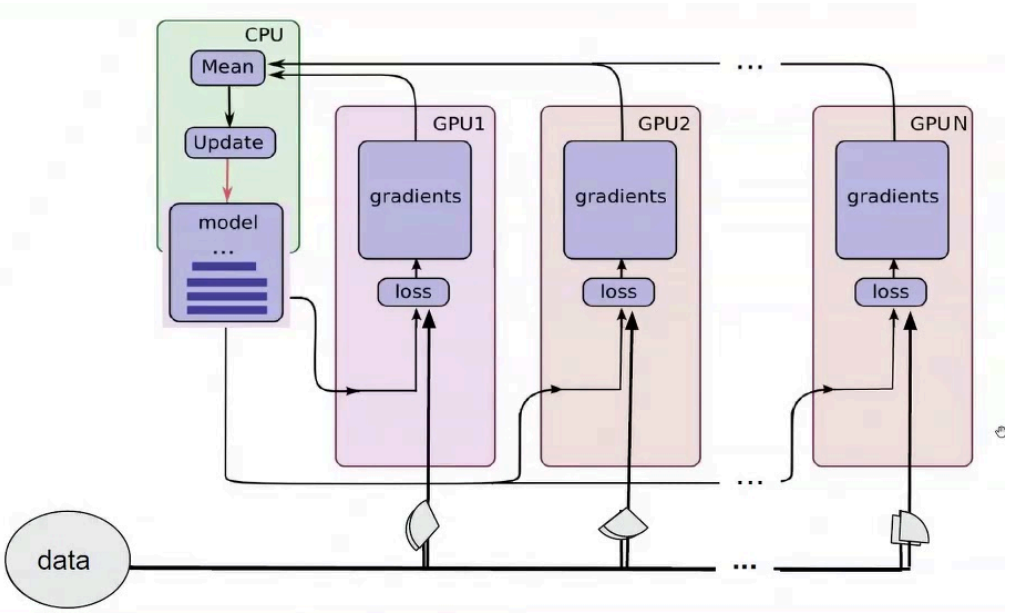
On atlaslogin02

- CPU threads = 48
  Although not all of them were running:
  `RuntimeError: Resource temporarily unavailable`
- 2hr scan evaluated **67 NNs**



Distributed Training on GPUs

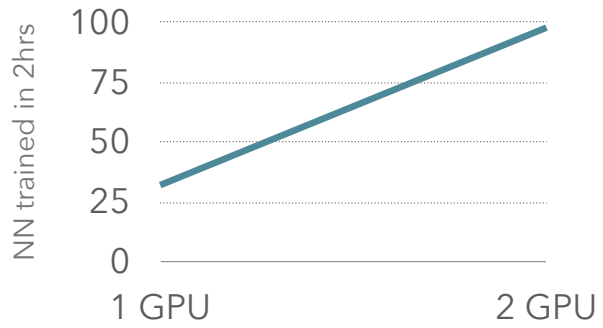
- Train **one distinct model and split the data (batch) per GPU**
- Using TF MirroredStrategy
- **Advantage:** process larger batch sizes, i.e. larger *effective* GPU memory
- 2hr scan evaluated **24 NNs**

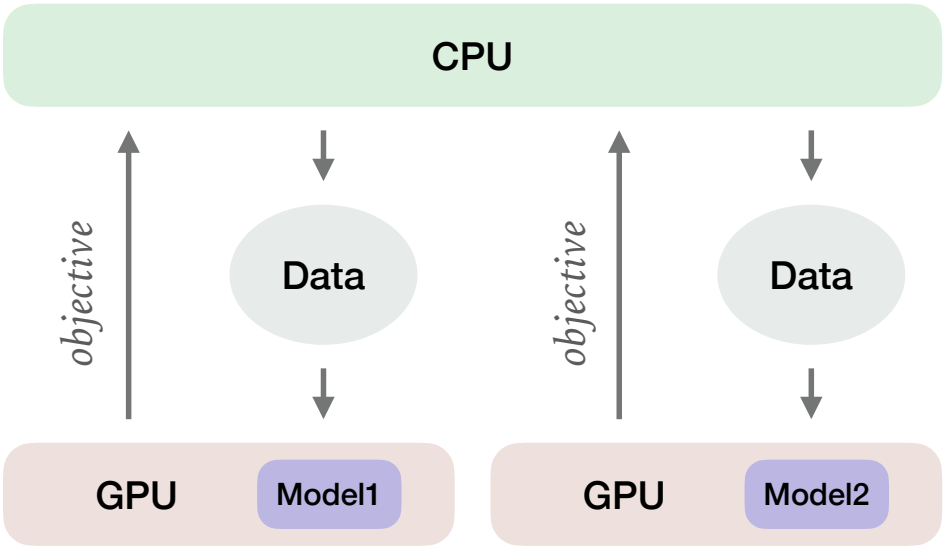


Problem: TF is not cleaning the GPU memory after each Model training

Parallel Training on GPUs

- **Parallelize the HPS** – similar to the CPU threads – not the training
- Create as many Ray tasks as your GPUs
- Each task sees only 1 GPU
- Results are aggregated in CPU
- 2hr scan evaluated **98 NNs**
- Scaling "linear":





Problem: TF is not cleaning the GPU memory after each Model training