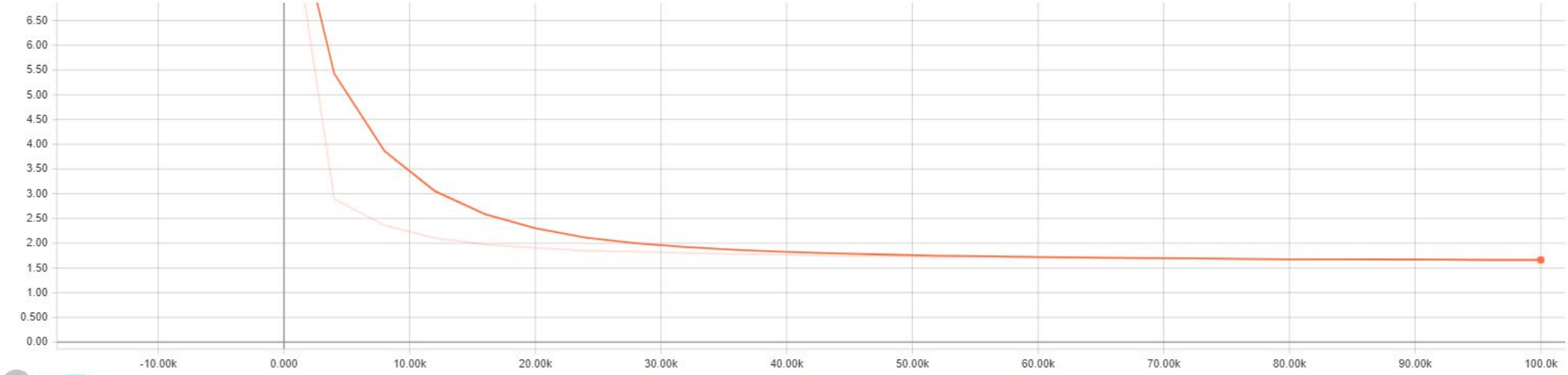
Homework 9 Answers

1. How long does it take to complete the training run? (hint: this session is on distributed training, so it will take a while)
    a. 30 hours, 56 minutes
2. Do you think your model is fully trained? How can you tell?
    a. Yes. The loss is converging to be asymptotically close to a minimum value.
3. Were you overfitting?
    a. Yes, I think the model was overfitting.
4. Were your GPUs fully utilized?
    a. Yes. They were maxed between 96%-100% for the entire run
5. Did you monitor network traffic (hint: apt install nmon) ? Was network the bottleneck?
    a. I did monitor the traffic, and I think that the GPUs were the bottleneck, not the network
6. Take a look at the plot of the learning rate and then check the config file. Can you explain this setting?
    a. The learning rate is decreasing at it approaches convergence to ensure that it does, in fact, converge.
7. How big was your training set (mb)? How many training lines did it contain?
    a. Each training file is between 664M and 1.3G
8. What are the files that a TF checkpoint is comprised of?
    a. A data file, index file, and meta file
9. How big is your resulting model checkpoint (mb)?
    a. 697M
10. Remember the definition of a "step". How long did an average step take?
    a. 1.11 seconds (30.93 hours / 100000 steps)
11. How does that correlate with the observed network utilization between nodes?
    a. That seems about right. The network has no problem transmitting data at that rate, which is what I saw in the network utilization monitoring.

eval_loss



Eval_BLEU_Score

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