University of Zurich

Advanced Techniques of Machine Translation

Assignment 1

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Task 1

To train on GPU, I added the "—cuda" flag to train and translate script calls in the shell script. CPU training time averaged to 19 seconds per epoch whereas training on GPU took an average of 3 seconds per epoch. This is seen in the images displayed below:

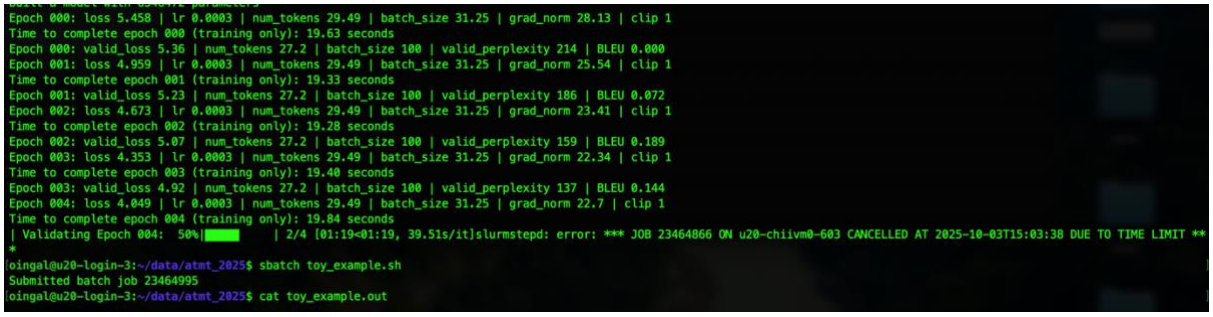

Image 1: Training on CPU

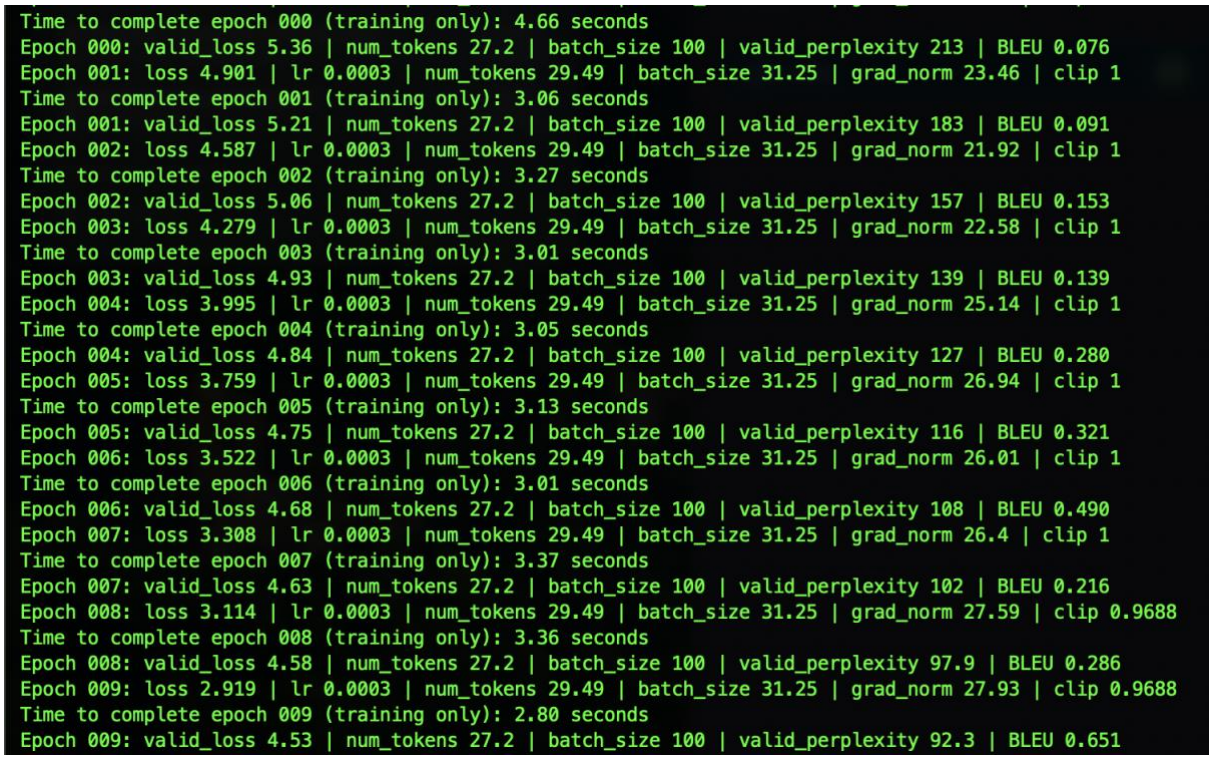

Image 2: Training on GPU

Task 2

The output file for this task is included in the submission folder. The graph for this task are as follows:

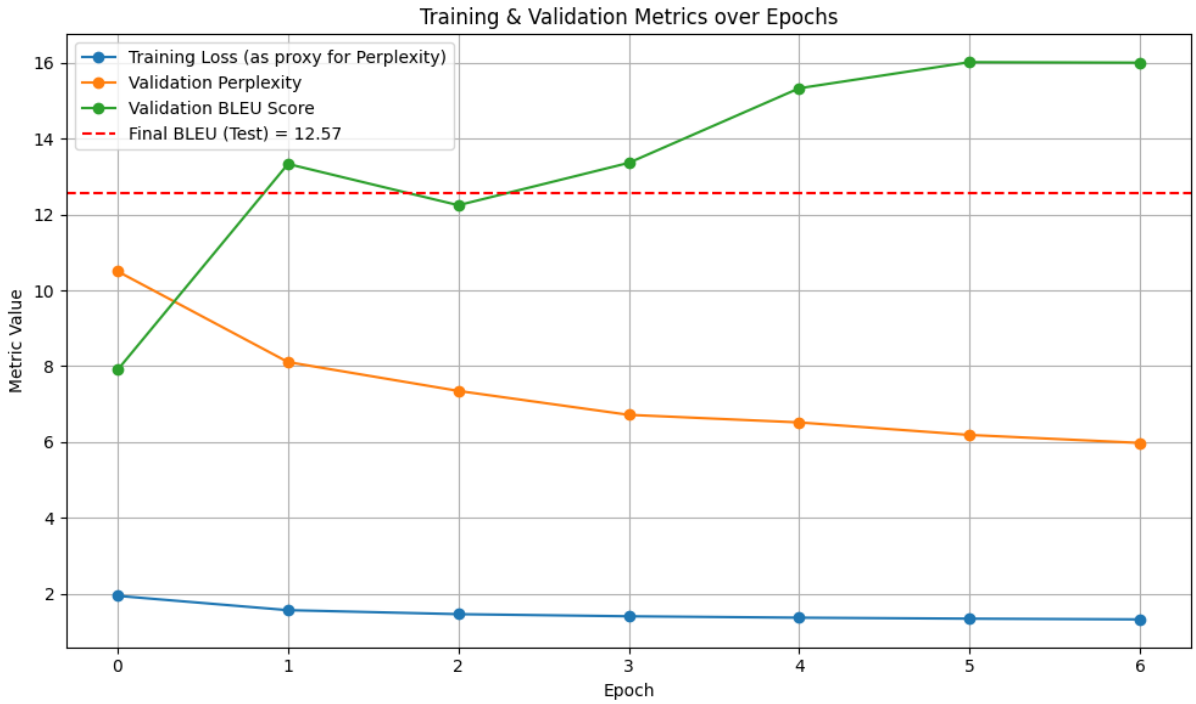

Image 3: Metrics Progression with Epochs (Training Loss shown instead of Training Perplexity)

Task 3

For this task, I chose to use 5000 entries from the WikiMatrix dataset on Opus[1]. The final BLEU score on the dataset was 2.05. The output file is included in the submission folder. The way I interpret the result is that the translation model didn't generalize well on the Slovak to English translation task. Most translations are incorrect and word alignment and sentence structure are incorrect.

[1] https://opus.nlpl.eu/WikiMatrix/sk&en/v1/WikiMatrix