

|         |          |                                  |                  |         |                   |                       |        |                        |                                  |         |                   |                        |         |
|---------|----------|----------------------------------|------------------|---------|-------------------|-----------------------|--------|------------------------|----------------------------------|---------|-------------------|------------------------|---------|
|         | Model    | Phi-3-mini-4k-instruct-q4.gguf   |                  |         |                   |                       |        |                        |                                  |         |                   |                        |         |
|         | Prompt   | What is an embedding model?"     |                  |         |                   |                       |        |                        |                                  |         |                   |                        |         |
|         |          | load time (ms)                   | sample time (ms) | runs    | tokens per second | prompt eval time (ms) | tokens | tokens per second      | eval time (ms)                   | runs    | tokens per second | total time (ms)        | tokens  |
| CPU     | 12 cores | 119.17                           | 27.23            | 256     | 9402.78           | 119.08                | 12     | 100.78                 | 12511.34                         | 255     | 20.38             | 12975.24               | 267     |
| GPU     | RTX 4090 | 130.02                           | 25.53            | 256     | 10029.38          | 129.57                | 12     | 92.61                  | 1113.32                          | 255     | 229.05            | 1524.88                | 267     |
| % delta |          | -9.10%                           | 6.24%            | 0.00%   | -6.66%            | -8.81%                | 0.00%  | 8.11%                  | 91.10%                           | 0.00%   | -1023.90%         | 88.25%                 | 0.00%   |
|         |          |                                  |                  |         |                   |                       | CPU    | Eval time / Total time | 96.42%                           |         |                   | GPU is about 8x faster |         |
|         |          |                                  |                  |         |                   |                       | GPU    | Eval time / Total time | 73.01%                           |         |                   |                        |         |
|         |          |                                  |                  |         |                   |                       |        |                        | Bulk of time spent in evaluation |         |                   |                        |         |
|         |          |                                  |                  |         |                   |                       |        |                        |                                  |         |                   |                        |         |
|         | Model    | Phi-3-mini-4k-instruct-fp16.gguf |                  |         |                   |                       |        |                        |                                  |         |                   |                        |         |
|         | Prompt   | What is an embedding model?"     |                  |         |                   |                       |        |                        |                                  |         |                   |                        |         |
|         |          | load time (ms)                   | sample time (ms) | runs    | tokens per second | prompt eval time (ms) | tokens | tokens per second      | eval time (ms)                   | runs    | tokens per second | total time (ms)        | tokens  |
| CPU     | 12 cores | 229.3                            | 17.72            | 168     | 9481.88           | 228.98                | 12     | 52.41                  | 23630.1                          | 167     | 7.07              | 24105.49               | 179     |
| GPU     | RTX 4090 | 136.41                           | 24.9             | 256     | 10282.78          | 136.31                | 12     | 88.03                  | 2456                             | 255     | 103.83            | 2866.99                | 267     |
| % delta |          | 40.51%                           | -40.52%          | -52.38% | -8.45%            | 40.47%                | 0.00%  | -67.96%                | 89.61%                           | -52.69% | -1368.60%         | 88.11%                 | -49.16% |
|         |          |                                  |                  |         |                   |                       | CPU    | Eval time / Total time | 98.03%                           |         |                   | GPU is about 8x faster |         |
|         |          |                                  |                  |         |                   |                       | GPU    | Eval time / Total time | 85.66%                           |         |                   |                        |         |
|         |          |                                  |                  |         |                   |                       |        |                        | Bulk of time spent in evaluation |         |                   |                        |         |