

Guidance and Rubric for the Final Report

ECE 408 / CS 483 / CSE 408, Spring 2020

Total for the report is 70 pts. As I mentioned on Piazza, if the code that you turn in doesn't compile, crashes when run, and so forth, you will lose nearly all of those points (that fact is not mentioned explicitly below).

Things to include in your final report are listed below. Please divide the report into sections using the specified labels and organize them in the order below except where specified (references at the end).

- (-10 pts) [Section title: Resources] Tell me in one sentence at the beginning of your report whether or not your team made use of private GPU resources in your project (if you have a GPU but didn't install CUDA, saying no is fine). There are no points for doing so, but if you leave out a statement, I will apply a penalty. You are free to make use of whatever computing resources are available to you, but I don't want to unfairly penalize other teams if teams with private GPUs are able to achieve much more impressive results than teams who only have access to RAI, so please be honest.
- (5 pts) [Section title: Application] An explanation of the problem that you are solving, why it is interesting, and what general approach you took to solve the problem in parallel. Illustrations are good.
- Information from the milestones:
 1. Information from the first report should be divided as follows
 - a. (5 pts) [Section title: Background] (Milestone 1 report, edited as necessary)
 - b. (5 pts) [Section title: References] citations to previous work should be listed **at the end** of the report using standard citation formats (look for IEEE or ACM formats online, if you're not familiar with the idea).
 2. (15 pts) [Section title: Implementation] (Milestone 2 report, edited as necessary) plus an explanation of your overall parallel strategy including how many kernels you developed, how the data flows from input to output (illustrate it if you have more than three kernels), what you chose to parallelize in each kernel (what each thread does in terms of the overall application). If your strategy changed during the optimization process, just describe the final strategy in this section, then explain the edits that were needed in the optimization section. Performance metrics for the baseline parallel code and comparison with the sequential code should also be clearly reported.
 3. (15 pts) [Section title: Optimization] (Milestone 3 report, edited as necessary) again, you need at least three, but they need not be the three that you reported for milestone 3 if you found better ones; please choose the best to report, and give the same information as given in milestone 3 (pick some order of application). If you want to illustrate tradeoffs (for example, accuracy vs. execution time), that's great.
- (20 pts) [Section title: Results] Provide a clear illustration of your final performance results (if you have applied more than three optimizations, mention them briefly here or explain them at length in the previous section, if you'd prefer). If sequential code exists, provide final speedup results (for project 1, be sure that you create at least one reasonably large input; mention the size vs. the speedup). If not, provide detailed results on the input set (for Pictionary bot—how many drawings does it recognize? How did you decide which ones?), the training speed (time per iteration), the time required to classify a large set of drawings (say how many, too), and the accuracy (per input type as well as average across the test set). Please note that the points for this section will be based both on your writeup **AND on a comparison with the results of other teams** doing the same project.
- (5 pts) [Section title: Conclusions] What did you learn about using parallelism for this application? What would you have liked to have known before you started? (Note that conclusions are not a summary. Repeating performance results or other parts of your report will earn 0 pts, as will pithy statements like, "Parallelism is good." I just want you to reflect a bit and write a paragraph or two on your thoughts as a team.)