Problem set 5

Peter Rotar

October 2023

Question 1: CUDA should outperform CPU implementation in situations where there is the need for high amount of parallelism on a very large data set. Since CUDA is created by NVIDIA it is highly likely it is used for graphics processing, meaning it is used for rendering, real-time image processing, etc.

Question 2: CPU implementation should outperform CUDA implementation in situations where there is not a lot of parallelism, hence making CUDA not so useful. It is also possible that CUDA is harder to implement when there is high amount of dependencies on a small data set.