Jacob Leboeuf Computer Graphics II Dr. Haim Levkowitz 28 September 2021

Summary

This article gives a brief outline of the history of Graphics Processor Units, as well as discusses its impact within the field of astronomy. Given that astronomy is very dependent on interactive models to either display various celestial objects or visualize data based upon those objects, the development and improvements in GPU technology have become essential to these aspects of the industry. CUDA technology, which is a fairly new kind of GPU architecture as of the creation of the article, is already starting to be used frequently by astronomical workers. The authors discuss computer algorithms used within the industry that have been accelerated by CUDA, including ones of k-Nearest Neighbor classification and an extraction algorithm used within the Guoshoujing Telescope. The work is concluded by mentioning some of the limitations of the CUDA technology, taking a devil's advocate approach regarding its impact, and acknowledging how CUDA is not perfect and useful in all situations.