ABSTRACT

GPU (Graphic Processing Unit) is a specialized processor for 3D graphics part of microprocessor. GPUs popularized by NVIDIA, NVIDIA has also developed a technology called CUDA (Compute Unified Device Architecture). CUDA (Compute Unified Device Architecture) is an architecture of hardware and software to manage parallel computing on GPU hardware. Each device GPU capable CUDA can act as a computing device massively parallel data with large amount of memory.

In the final project, analysis explicit configuration kernel function on GPU CUDA, with a case study: matrix multiplication, ie with devided process into block, thread and a combination of block and thread. From the analysis, showed that there was ni significant difference in the test block and thread only. While on the test that uses a combination of block and thread, showed a significant difference between of two variables block and thread the time trial and there's interaction between the variables block and variables thread on each individual test time trial.

Keywords: GPU, CUDA, kernel, matrix multiplication.