# ABCTRACT

Communication is an important thing to do since the first humans, ranging from the trade to the war strategy, a lot of communication going on and have important information that should be kept confidential, the cryptography is one way to protect that information. Using blowfish algorithm as well as take advantage of parallel computing, the results of doing encrypt and decrypt the data can run faster.

Using the power of parallel CPU by using OpenMP which utilize the many capabilities thread on the CPU and GPU with CUDA to utilize GPU performance overall, so time data processing, encrypt and decrypt become shorter due process load is distributed to all the resources available in the computer.

This study produces results of the process to encrypt and decrypt text file using OpenMP CPU 681MB is 8.8 seconds with throughput 78.68 MB/s, as well as the performance of the GPU with CUDA programming results to encrypt and decrypt generated is 3.8 seconds with throughput 179.21 MB/s.



Keyword: Cryptography, Blowfish, GPU, CPU,CUDA,OpenMP