

BAB 6

KESIMPULAN DAN SARAN

6.1. Kesimpulan

Dari pembahasan Pengenalan Karakter Aksara Jawa Menggunakan Komputasi Pararel Pada Segmentasi Citra di atas, dapat ditarik beberapa kesimpulan yaitu :

1. Perangkat lunak untuk segmentasi citra digital aksara jawa dengan PSO yang berjalan pada CPU dan GPU dengan CUDA telah berhasil dibangun.
2. Perangkat lunak untuk pengenalan aksara jawa dengan algoritma *backpropagation neural network* telah berhasil dibangun.
3. Secara umum, segmentasi citra digital dengan PSO yang berjalan pada GPU berjalan lebih cepat dibandingkan dengan segmentasi citra digital dengan PSO yang berjalan pada CPU. Dengan percepatan pada segmentasi citra digital dengan PSO yang berjalan pada GPU sekitar dua kali lipat dibandingkan segmentasi citra digital dengan PSO yang berjalan pada CPU.
4. Kualitas hasil *clustering* dari algoritma PSO yang berjalan pada GPU sebanding dengan kualitas hasil *clustering* dari algoritma PSO yang berjalan pada CPU.
5. Pada proses pengenalan karakter aksara jawa, rata-rata kesalahan pengenalan terdapat pada karakter yang memiliki kemiripan bentuk.

6. Rata-rata hasil pengenalan untuk setiap jenis ukuran karakter yang tidak dilatihkan bergantung pada ukuran karakter yang telah dilatihkan, apabila jenis karakter tersebut mirip dengan salah satu model karakter yang dilatihkan maka rata-rata hasil pengenalan akan tinggi. Persentase rata rata akurasi hasil pengenalan tiap karakter untuk jenis *font* sama dengan yang dilatihkan mencapai 75%.

6.2.Saran

Beberapa saran dari penulis untuk penelitian lanjutan:

1. Pengenalan karakter aksara jawa yang menggunakan algoritma *backpropagation neural network* bisa memanfaatkan juga pemrograman paralel dengan *library* CUDA, karena *backpropagation neural network* merupakan algoritma yang *inherently parallel*, yaitu algoritma yang memiliki sifat dasar paralel, bukan serial, sehingga mudah untuk diimplementasikan pada komputasi paralel.

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