BAB VI. PENUTUP

6.1.Kesimpulan

Kesimpulan yang diperoleh dari proses pelatihan, pengujian, dan evaluasi sistem klasifikasi tingkat keparahan Retinopati Diabetik adalah sebagai berikut:

1. Sistem dapat melakukan ekstraksi fitur-fitur Retinopati Diabetik dengan segmentasi *exudates*, *blood vessels*, dan *microaneurysms* melalui citra funduskopi.

2. Sistem dapat mengklasifikasi tingkat keparahan Retinopati Diabetik menggunakan jaringan syaraf tiruan *Self-Organizing Map* dengan hasil nilai akurasi pelatihan terbaik 72% ketika parameter *neuron size* sebesar 20, *sigma* bernilai 5, *learning rate* bernilai 0.5 dan jumlah iterasi 5000 kali.

3. Pengujian sistem menghasilkan nilai akurasi sebesar 62% ketika parameter *neuron size* sebesar 20, *sigma* bernilai 5, *learning rate* bernilai 0.5, dan jumlah iterasi 5000 kali.

6.2.Saran

Saran yang diberikan oleh penulis dalam proses pelatihan, pengujian, dan evaluasi sistem klasifikasi keparahan Retinopati Diabetik adalah sebagai berikut:

1. Akurasi segmentasi/*feature extraction* fitur-fitur Retinopati Diabetik dapat dioptimalkan dengan teknik pencarian parameter menggunakan algoritma lain (sebagai contoh menggunakan teknik pencarian heuristik), penggunaan basis data dengan pembagian kelas keparahan Retinopati Diabetik yang lebih merata, dan alur pengolahan citra yang digunakan.

2. Dimungkinkan untuk mendapatkan akurasi klasifikasi yang lebih tinggi saat fitur masukan *exudates*, *blood vessels*, dan *microaneurysms* tidak dilakukan penggabungan/*concatenation*.

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