BAB 6

KESIMPULAN & SARAN

6.1 Kesimpulan

Pada bagian ini, dijelaskan kesimpulan yang didapat dari penelitian yang telah dilakukan selama pengerjaan skripsi. Setelah konsep-konsep yang dibutuhkan untuk membuat *fuzzy expert system* dipelajari, dan *fuzzy expert system* untuk diagnosis CKD telah dibuat dan diuji, berikut adalah kesimpulan yang didapat:

- Pada awal pengerjaan skripsi, digunakan seluruh atribut pada dataset sebagai faktor yang mempengaruhi peningkatan risiko CKD, yaitu sebanyak 24 atribut seperti yang dapat dilihat pada Tabel 3.1 baris 1-24. Namun, berdasarkan hasil perhitungan nilai *R-squared* setiap variabel CKD yang terlihat pada Tabel 3.12, serta hasil pengujian pada Bagian 5.5, dapat disimpulkan bahwa lima variabel/faktor CKD yang paling berpengaruh terhadap risiko CKD adalah *Hemoglobin*, *Serum Creatinine*, *Packed Cell Volume*, *Red Blood Cell Count*, dan *Albumin*.
- *Fuzzy inference system* dengan Metode Inferensi Tsukamoto dan Mamdani dapat digunakan dalam sebuah *expert system* untuk diagnosis CKD dengan mengimplementasikannya sebagai komponen *inference engine* dari *expert system*.
- *Fuzzy expert system* dapat dibangun dengan mengimplementasikan komponen-komponen *expert system*. Komponen *inference engine* diimplementasikan dalam bentuk *fuzzy inference system*. *Knowledge acquisition* bisa didapat dengan membuat *fuzzy rules* dengan metode yang diusulkan oleh Wang dan Mendel.
- Berdasarkan hasil pengujian yang didapat pada Tabel 5.5, dapat disimpulkan bahwa *Fuzzy expert system* yang menggunakan Metode Inferensi Mamdani dan Tsukamoto, sama-sama dapat mendiagnosis CKD secara akurat, yaitu dengan tingkat akurasi terbaik masing-masing sebesar 94.5% dan 95.5%.

6.2 Saran

Adapun saran untuk mengembangkan penelitian ini dengan lebih lanjut. Kendala utama yang dialami selama penelitian skripsi ini adalah *fuzzy rule base* yang *incomplete* untuk penggunaan seluruh atribut CKD yang ada pada Tabel 3.1. Karenanya, jika *fuzzy rule base* yang dipakai bisa lebih *complete*, maka akurasi diagnosis CKD akan membaik juga. Salah satu cara untuk membuat *fuzzy rule base* yang lebih *complete* adalah dengan menambah *record* dataset CKD yang digunakan untuk membuat *fuzzy rule base*.

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