ABSTRAK

Obesitas merupakan kondisi tubuh dimana terjadinya penumpukan lemak yang tidak normal pada jaringan adipose sehingga membuat berat badan menjadi meningkat. Belum adanya alat untuk mengklasifikasi tingkat obesitas seseorang berdasarkan data aktivitas dan pola makan itu menjadi hal yang penting dalam penelitian ini. Pada penelitian ini digunakan data sekunder yang diambil dari *UCI Repository*. Data berjumlah 2111 *record* dengan 16 atribut yaitu: *Gender, Age, Height, Weight, family_history_with_overwigght, FAVC, FCVC, NCP, CAEC, SMOKE, CH2O, SCC, FAF, TUE. CALC, MTRANS* dan 1 label kelas yaitu *Insfuzzient_weight, Normal_Weight, Overweight_Level_I, Overweight_Level_II, Overweight_Type_I, Overweight_Type_II,* dan *Overweight_Type_III*. Data tersebut mengalami proses *preprocessing* dengan melakukan proses data *selection* dan data *transformation.* Data yang telah di *preprocessing* diolah dengan algoritma *fuzzy decision tree* dengan variasi *max_depth* 3,5,8,10,15,20, *fuzziness* 0, 0,1, 0,8, dan 1. Hasil Akurasi yang diperoleh adalah 98,3% dengan *max_depth* 10, *fuzziness 0,1*, dan *criterion entropy.*

Kata kunci : Obesitas, Klasifikasi, *Fuzzy, Decision Tree*

ABSTRACT

Obesity is a condition in which there is an abnormal accumulation of fat in adipose tissue, resulting in increased body weight. The absence of a tool to classify the level of obesity in individuals based on activity data and eating patterns is important in this study. Secondary data from the UCI Repository was used in this research. The data set consists of 2111 records with 16 attributes: Gender, Age, Height, Weight, family_history_with_overweight, FAVC, FCVC, NCP, CAEC, SMOKE, CH2O, SCC, FAF, TUE, CALC, MTRANS, and 1 class label: Insufficient_weight, Normal_Weight, Overweight_Level_I, Overweight_Level_II, Overweight_Type_I, Overweight_Type_II, and Overweight_Type_III. The data underwent preprocessing through data selection and data transformation. The preprocessed data was then processed using the fuzzy decision tree algorithm with variations of max_depth 3, 5, 8, 10, 15, and 20, fuzziness 0, 0.1, 0.8, and 1. The accuracy achieved was 98.3% with max_depth 10, fuzziness 0.1, and entropy criterion.

Keywords: Obesity, Classification, Fuzzy, Decision Tree