Classification of Diabetes Mellitus Patients with CHAID (Chi Square Automatic Interaction Detection) and CART (Classification and Regression Tree) Method

Name : Ria Dhea Layla NK
NRP : 1311 105 003
Department : Statistics ITS
Supervisor : Dr. Brodjol Sutijo S.U, M.Si
Co. Supervisor : Dr. Bambang W. O., M.Si

ABSTRACT

Diabetes is known to cause problems with the silent killer. Diabetes is caused by a defect in insulin Diabetes. Types of Diabetes are diabetes type I (caused by lack of insulin production), type II (caused by excessive insulin production), and gestational (hyperglycemia that occurs during pregnancy). CHAID (Chi Squared Automatic Interaction Detection) and CART (Classification and Regression Tree) methods are used in the classification. CHAID is a method used on nominal data or ordinal scale (non-metric). CART is used on a continuous data and ratio (metric). The data used in this study is secondary data from patients with type II diabetes mellitus and not type II. Response variables are type II diabetes mellitus and except type II then predictor variables are family history of, age, gender, obesity, diet, and physical activity (exercise). Classification of Diabetes Mellitus by CHAID method is a factor of family history, obesity, and gender, whereas in patients with diabetes mellitus CART factors are family history, obesity, age, and gender.

Keywords: CHAID, CART, Diabetes Mellitus