Abstract

Thyroid gland secretes thyroid hormones to control the body's metabolic rate. The malfunction of thyroid hormone will lead to thyroid disorders. The under-activity and over-activity of thyroid hormone causes hypothyroidism and hyperthyroidism. This paper describes the diagnosis of thyroid disorders using decision tree attribute splitting rules. Since, decision tree attempts to follow one decision, it helps to classify the data in dataset according to aforesaid disorders. This method provides five different splitting criteria for the construction of decision tree. The splitting criteria are Information Gain, Gain Ratio, Gini Index, Likelihood Ratio Chi-Squared Statistics, Distance Measure. Among, the aforementioned splitting rules three rules belong to Impurity based splitting criteria and other two are Normalized Impurity based splitting criteria. As a result, the decision tree classifies the thyroid data-set into three classes of thyroid disorders.

References

Index Terms

Computer Science  Artificial Intelligence

Keywords

Thyroid Disorders  Decision Trees  Information Gain  Gain Ratio  Gini Index  Likelihood Ratio Chi-squared Statistics  Distance Measure