

ABSTRACT

The thyroid gland has one of the most important functions in regulating metabolism of our body. Hypothyroidism and hyperthyroidism are two critical conditions caused by insufficient thyroid hormone production and excessive thyroid hormone production, respectively. Accurate and timely detection of these diseases is crucial for effective treatment and management. The “Thyroid Detection Using Machine Learning” project is focussed on detecting and diagnosing thyroid disease.

From the three papers, we get to know that different models were used for the detection of thyroid disease. First paper is the detection and classification of thyroid disease using selective features. Second paper focuses on machine learning approach for thyroid disease detection using optimized model. Third paper aims at classification of hypo and hyper thyroidism.

The system is the comparative study of three algorithms Random Forest, Logistic Regression and Support Vector Machine. The models will classify thyroid disease under three classes which are no thyroid, hyperthyroid and hypothyroid. By comparing these algorithms, the project aims to determine which model offers the highest accuracy and reliability in diagnosing thyroid conditions.

The dataset is taken from the Kaggle repository. The dataset contains 9172 sample observations and has 31 columns including 1 identifier, 1 class variable and 29 features. The dataset contains numeric values and Boolean values.

Dataset: <https://www.kaggle.com/datasets/emmanuelfwerr/thyroid-disease-data>

References

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