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Thyroid classification using Deep Learning Techniques

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Abstract:
Thyroid is spreading all over India. About the disorder, this Study aims to provide the source of research to a clear prediction in thyroid classification. From the various machine learning techniques, four algorithms used. The algorithms are Decision tree, Naïve Bayes, Random Forest and Support Vector Machine (SVM) to evaluate and predict the performance accuracy. The study has highlighted the SVM algorithm to overcome with best accuracy using Hybrid. The data are collected from UCI Machine Learning Repository. Intensive Subset Cluster Feature Selection (ISCF) to choose the features depending on marginal accuracy. This reduces the big data dimensionality problems which make features to trained on Multi-Perceptron Neural Network (MPNN) for best training features. The proposed ISCF-MPNN resultant factors prove that best classification accuracy is achieved with regard to thyroid disease influence rate which is up to 97 %. on Decision tree and SVM feature with random forest classification (HDT-SVMRF. Finally, Optimized Thyroid classification and prediction based on Deep featured spectral multi perception neural network is implemented to improve the thyroid classification.

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I. Introduction

Out of ten-person suffered with thyroid in India. Women's have 17–54 age primarily happens with
the disorder of thyroid. The extreme stage results in thyroid as a cardiovascular complication, Blood
pressure increasing, cholesterol level maximize, decreased fertility and depression. The total serum
triiodothyronine (T3) and Thyroxine (T4). These two are the active thyroid hormones, produced
thyroid gland and it controls the metabolism of the body. In each of the cell functioning, Organs and
tissues are the right way and the overall energy and the reading the proteins to generate the body
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temperature and hormones are required. Hyperthyroidism is a disorder, thyroid gland which
indicated more thyroid hormones. It increases high thyroid hormone level. The symptoms are
Elevated temperature in sensitivity, Weight loss, Dry skin, High heat rate, Hair is in thin,
enlargement of neck, Mensuration cycle problem, Shakening hands, Nervousness and many
problems. These are symptoms that the thyroid gland is in underactive.

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