**Efficient Thyroid Disease Prediction using Features Selection and Meta-Classifiers**

**Abstract :**

The Thyroid is an endocrine gland that can produce thyroid hormones, which are functional throughout our entire body. Its malfunction can lead to the production of an insufficient or excessive amount of thyroid hormone. Early detection of thyroid disorders allows for better treatment in the early stages, avoiding thyroid replacement therapy and thyroid removal to some extent. One of the most commonly used treatments is sodium levothyroxine, also known as LT4, a synthetic thyroid hormone used in the treatment of thyroid disorders and diseases. The main goal is to recognise the disease in its early stages with very high accuracy. Machine learning techniques are widely used in the medical field. A method for the classification and diagnosis of thyroid disease that a user is suffering from, along with a disease description and healthy advice. A support vector machine is used for classification. To optimise SVM parameters, particle swarm optimization is applied. The user is provided with a window to enter the details, such as the values of TSH, T3, and T4, etc. There may be some values missing while the user enters the values. The k-nearest neighbour algorithm is used for approximating the missing values in the user input.