

Thyroid Disease Classification Using ML

Define Problem/ Problem Understanding

Literature Survey

Literature 2016 explained that the thyroid is a butterfly formed organ situated in the human neck and an organ of digestion. The thyroid gland is one of the body's most visible endocrine glands. Its size is determined by the individual's age, gender, and physiological states, such as pregnancy or lactation.

Thyroid Stimulating Hormone (TSH) which stimulates the thyroid gland to produce more hormones. Approximately one in 10 Indian women suffer from hypothyroidism, which means the thyroid gland does not secrete sufficient thyroid hormones to meet up the needs of the women body. Most of the girl from the age 18 is suffering from thyroid problems. It is divided into two lobes (right and left) by an isthmus (a band of tissue). It is imperceptible in everyday life yet can be detected when swallowing.

It is divided into two lobes (right and left) by an isthmus (a band of tissue). It is imperceptible in everyday life yet can be detected when swallowing. Abnormal levels of thyroid hormones during pregnancy are connected with a high risk of complication / hurdle such as miscarriages, anemia, postpartum bleeding and placental abruption. Thyroid disorders can range from small, harmless goiter to complex cancer. It affects both mother and new born baby's weight and sometimes fetal death. Therefore, treating thyroid problems is important for both maternal and child health. Additionally, it enhances oxygen consumption in the majority of the body's cells by assisting in the processing of uncoupling proteins, which contributes to an improvement in the rate of cellular respiration. Assume a machine learning model can detect the thyroid disease in a patient.

The thyroid disease can then be easily identified based on the symptoms in the patient's history. Currently, models are evaluated using accuracy metrics on a validation dataset that is accessible. It affects both mother and new born baby's weight and sometimes fetal death. Therefore, treating thyroid problems is important for both maternal and child health.