

## Business Requirements

The business requirements for a machine learning model to predict thyroid disease include the ability to accurately predict thyroid disease based on the scan results, Minimise the number of false positives (wrong thyroid disease confirmations) and false negatives (thyroid is there but got as not thyroid disease). Provide an explanation for the model's decision, to comply with regulations and improve transparency.

Due to the advancement in technologies such as data mining, big data, image and video processing, and parallel computing, the healthcare domain benefited from leveraging technology in many healthcare areas for human well-being . The range of data mining-based health care applications may include the early detection of diseases and diagnosis, prediction of virus outbreaks, drug discovery and testing, health care data management, and patient personalized. Health care professionals strive to identify the diseases in the early stages so that proper treatment can be provided to the patients and cures the disease within a short time and with less expenditure. Thyroid disease is one of the diseases which impacts a sizeable human population worldwide. Twelve percent of the US population is diagnosed with a thyroid condition at least once in a lifetime. These statistics signify that thyroid-based disease should not be taken lightly. Improving the health care practices to detect and prevent thyroid diseases using advanced technologies is highly desired.