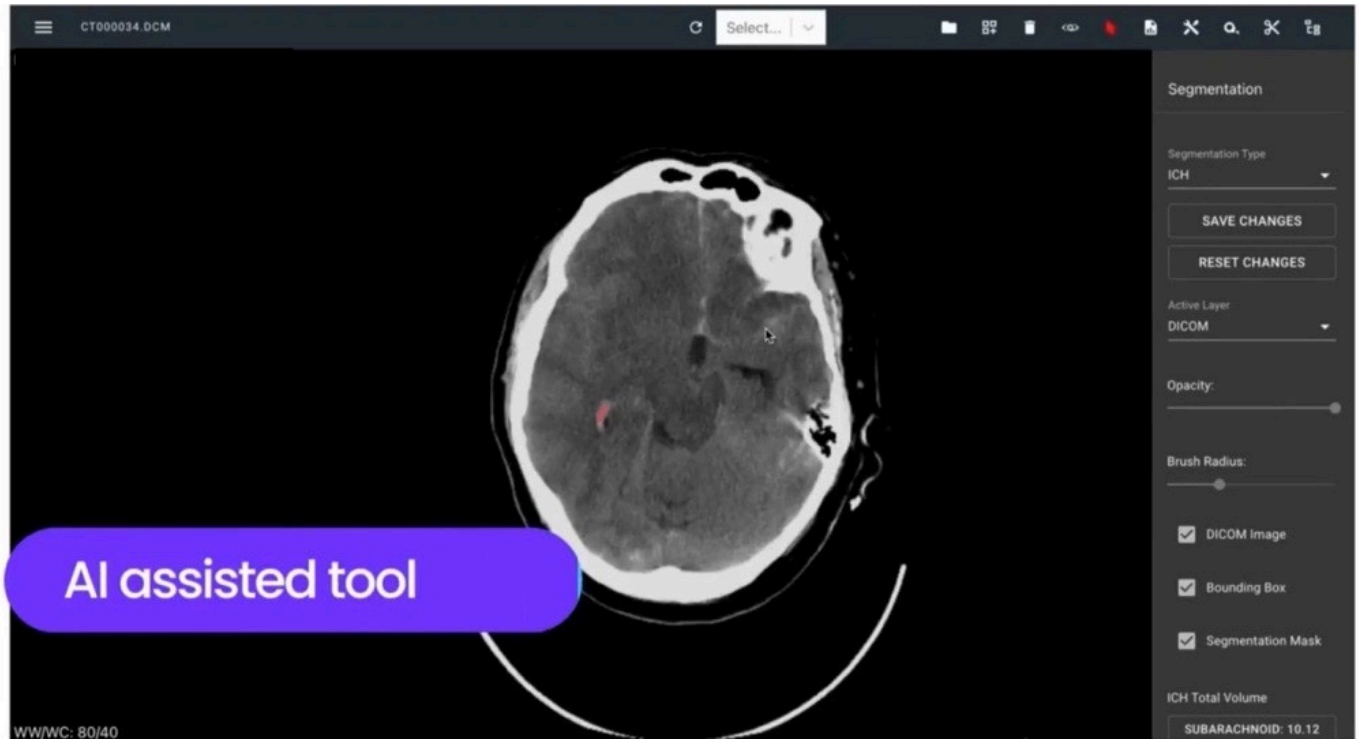
TECH OFFER

A Suite Of Ai Tools To Detect And Monitor Neurological Diseases From Ct Scans



KEY INFORMATION

TECHNOLOGY CATEGORY:
Healthcare - Telehealth, Medical Software & Imaging

TECHNOLOGY READINESS LEVEL (TRL): TRL4
COUNTRY: SINGAPORE
ID NUMBER: TO174977

OVERVIEW

Neurological diseases are the second leading cause of death. CT scans have been used as the primary modality to diagnose brain abnormalities such as Intracranial Haemorrhage (ICH) and neurodegeneration. Radiologists usually have to deal with an overwhelming scan backlog and writing radiology reports is a time consuming process. Manual segmentation of lesions is tedious and existing heuristics have been shown to overestimate lesion volumes. Clinicians are also wary of the 'black box' nature of deep learning models. Hence, an automated tool in the workflow could substantially improve clinical productivity and interpretability is crucial to build trust with clinical stakeholders.

Our proposed technology is an AI solution that automates ICH detection and brain tissue segmentation on CT scans, producing accurate volumetric information to assist triaging. Our technology also comes with a set of tools to interact with the AI models and generate reports easily. Moreover, we strengthen our AI transparency with interpretable models. Our platform also focuses on model robustness tests to assure AI safety.

TECHNOLOGY FEATURES & SPECIFICATIONS

Our core technology is our trained deep learning detection and segmentation models. Our web user interface allows visualization of the medical images and the AI predictions. Users can upload their scan using our web interface (deployed locally or in a private cloud) and obtain the results and report instantly. In the report section, users can also customize the layout of the radiology report to suit their workflow.

POTENTIAL APPLICATIONS

We look forward to deploying our solution in healthcare institutions that work with CT scanners. Our technology can be deployed locally or on a secured cloud platform and integrated with local PACS systems. Our current focus area is in neurology but our solutions can be generalisable across modalities and tasks.

The size of the AI medical imaging market is projected to be 20.9 billion USD in 2030. The addressable market size in Neurology and CT is 2.85 billion USD (13.6%). Our AI solution is tailored to learn Asian population brain anatomical data, which is unique in the market, therefore we are targeting to serve the Asia Pacific market which is estimated to be around 769 million USD (27%).

UNIQUE VALUE PROPOSITION

While some available products offer solution to predict whether ICH exists in the scan, our technology automates ICH segmentation that allows accurate calculation of the lesion volume from CT scans. Secondly, most available products in the market rely on MRI scans for brain tissue segmentation, but our technology allows fast inference on CT scans. Our technology is also able to perform Alzheimer's Disease detection using CT scans. Crucially, our solution provides ways to identify drifts, quantify uncertainty and explain model decisions in discriminative tasks, which can help build trust with clinicians.