

Heuron Case study: Boston Medical Center



Optimization of the stroke diagnosis pathway

Include the use of a deep learning-based stroke detection tool and a mobile application to improve and speed up the diagnosis process of patients with suspected strokes.



BACKGROUND

Boston Medical Center is a comprehensive stroke center. It is a multidisciplinary group comprised of stroke neurologists, interventional neuro-radiologists and cerebrovascular neurosurgeons with 24/7 coverage. They work to provide excellence in care and research.

LVO ON NONCONTRAST CT

Noncontrast computed tomography remains, to this day, the imaging modality of choice for hyper acute assessment of stroke. Identifying the features of acute ischemic stroke is still really important for common practice. Some studies have demonstrated the possibility to detect arterial occlusion on NCCT images based on the Hyperdense Artery Sign.

This method alone has proven to have a relatively low sensitivity and the absence of HAS alone can not be used to completely erase the suspicion of a stroke in patients. A CTA still has to be performed in a lot of cases to confirm the diagnosis.

There is the need for a solution that detect and analyses all information available on NCCT images. These valuable information must then be transmitted rapidly to the care team in order to maximize positive outcomes in patients,

SOLUTIONS

With Heuron solutions, we can detect hemorrhages, LVO and ASPECTS score from noncontrast CT images. cHS detect suspected hemorrhage and produce a report in a few seconds.

The second software, cELVO, detects suspected large vessel occlusions.

This tool, which would endeniably offer patient a faster treatment and also increase the survival rate for patient with allergies who don't have access to angiography.

Heuron solutions cASPECTS also automatically calculate the aspect score for patient with LVO.

This entire process only takes a few minutes and is

RESULTS

cStrokes software has been used by doctor Nguyen at Boston Medical center.

Doctor Thanh Nguyen utilized the softwares over a total of 20 patients and she concluded to different outcomes in 6 cases. The software performance is satisfactory and it is expected to bring a positive impact once fully integrated into clinical settings



« The performance of the software was highly satisfactory »

Thanh Nguyen, MD – neurology department Boston Medical Center

