

Clara MRI: Transcript

Magnetic Resonance Imaging, or MRI's, are commonly used to help diagnose a significant number of medical conditions, from connective tissue injuries to brain tumors.

Some MRI studies require the injection of a contrast agent into the patient to better visualize specific findings.

Powered by NVIDIA GPUs and NVIDIA's Clara SDK, Subtle Medical has found a way to reduce the use of the contrast agent, Gadolinium, in MRIs without sacrificing the quality of the images.

Not only that, because Clara is containerized, the implementation can run on local workstations, on-premise data centers, and even in the cloud using NGC.

On the left, we have an MRI scan of a patient with a large brain tumor located centrally in the brain.

This MRI was done using a 100% of the required contrast agent which helps us to identify and separate the tumor from the rest of the tissue and bone.

The tumor is seen here as a white centrally located circle.

In the middle panel, we see the same MRI image, however, in this example, only 10% of the contrast agent was administered.

Notice how the tumor here blends in and is harder to distinguish from the surrounding brain tissue.

The last panel on the right is also obtained using only 10% of the contrast agent.

Here we see the results of Subtle's deep learning model, powered by NVIDIA GPUs and the NVIDIA CLARA SDK.

The model produces an almost identical image to the full contrast image on the left.

Another great benefit of this AI enhancement shown here is the MRI scan can be performed in a quarter of the time.

This means less time in the scanner trying to stay still, and increased patient comfort.

Simply put, Clara enables the most advanced methods for reconstruction, segmentation, visualization, and AI.