Validation plan

Intended use of the product

The product is intended to help the clinicians in quantifying Hippocampus volume in MRI scans. The information will help them gain a quick value of the volume. But it would require them to collect more information about their patients and conduct further analysis to come to any conclusion.

Collecting training data

The training dataset is collected from the "Hippocampus" dataset from the Medical Decathlon competition. We will be using cropped volumes of these images where only the region around the hippocampus has been cut out. This has significantly reduced the size of a sample so as to have a quicker training time.

Labelling of training data

The labels are created by human experts of this form of data (Radiologists). The labels are in the form of a mask of the image. You could see the position and size of the hippocampus in the label over a dark background as it is in the image.

Measuring training performance of the algorithm

The training performance was measured using Jacard and Dice scores. The real world performance could be measured by validating the model on separate datasets. In the real world, we will also have information about other factors like gender, age, condition of patients, etc and we could use this information to have better validation for a given population.

Performance on real world data

The dataset doesn’t have information about age, gender or condition of patients, so we cannot know how the performance will vary as per these factors. But it will have a decent performance in quantifying volumes for a Radiologists to study.

Then the Radiologists could use further information about their patients to gain more intuition from their dataset.