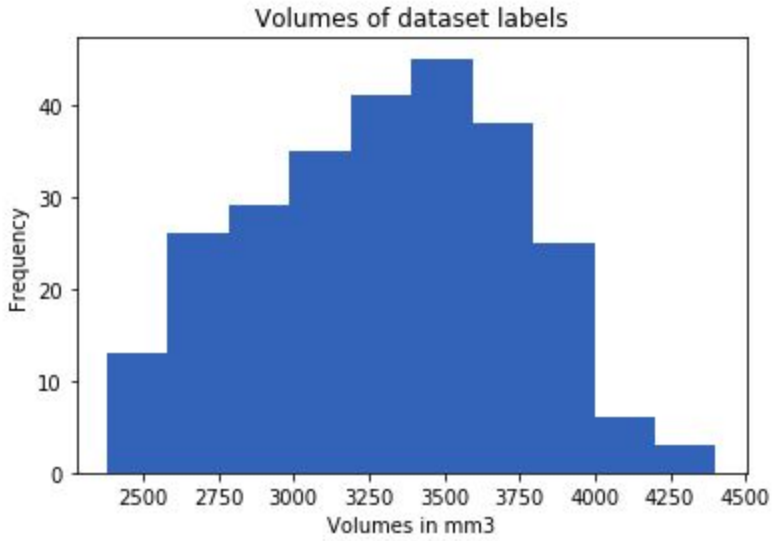
Intended use of the product:



Histogram of the hippocampal volume

Looking at the above, we see that the algorithm was trained on the hippocampal volume data which ranges from 2200 to 4500. All patients were scanned for the MRI who was showing early symptoms of Alzheimer's Disease progression. This algorithm is intended to use in determining the early stages of Alzheimer's disease progression.

Training data collection:

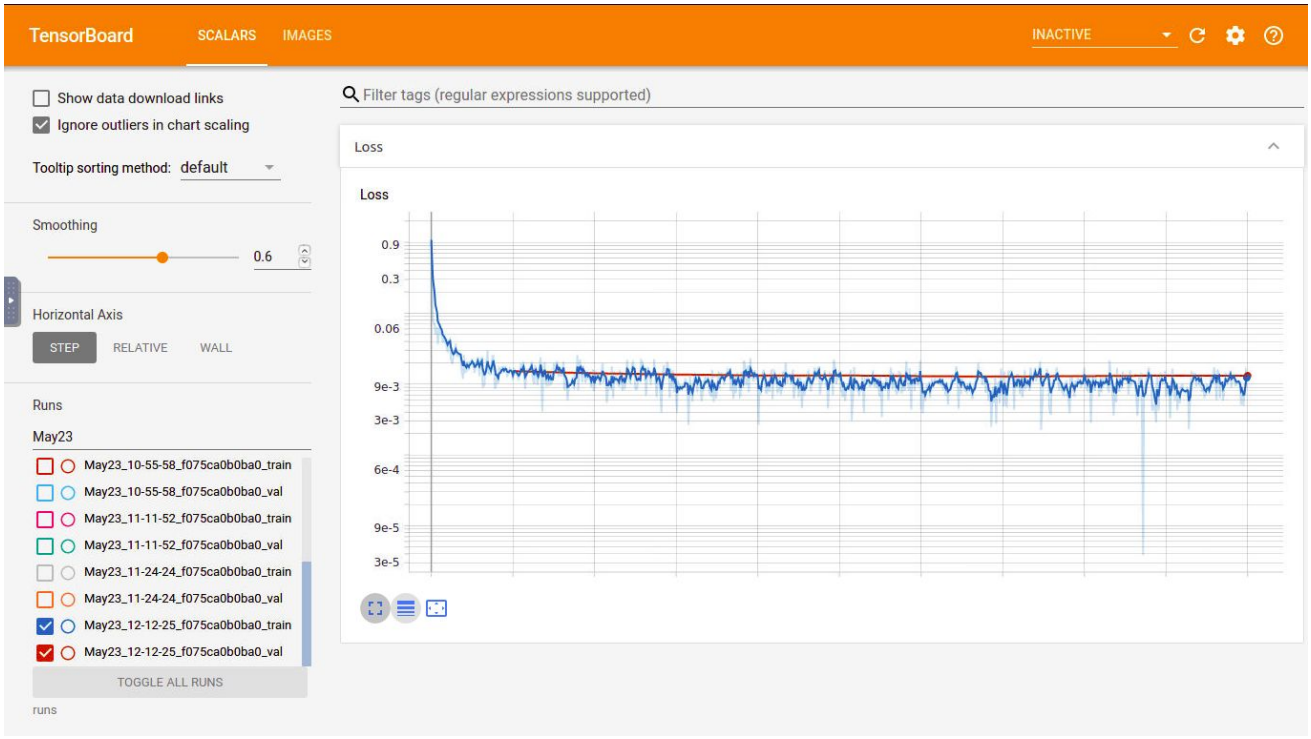
The dataset is collected by taking MRI scans of different age, gender, and brain hemisphere. This dataset is stored as a collection of NIFTI files, with one file per volume, and one file per corresponding segmentation mask. The original images here are T2 MRI scans of the full brain. As noted, in this dataset we are using cropped volumes where only the region around the hippocampus has been cut out. This makes the size of our dataset quite a bit smaller allowing us to have reasonable training times.

Labeling of the training data:

The dataset is labeled by marking each slice of the MRI scan for the Hippocampal area. Then extended to all slices for calculating total volume.

Training performance:

The performance of the algorithm during training is measured by checking the training and validation loss of the model. For our case which looks like this:



The performance of the algorithm in the real world can be estimated by checking the model on the test dataset that is testing the model on the MRI scans which are not present in the training or validation dataset. It should also be made sure that the dataset is MRI scans are not overly expanded or shrunk (ie Hippocampal volume should be between 2200 and 4500).

Algorithm performance:

The algorithm will perform well on the dataset whose Hippocampal volume is ranging from 2200 to 4500. The MRI scan can be of any gender or age or hemisphere of the brain.

It may not perform if the MRI scan has hippocampal volume not in the range of 2200 and 4500.