Introduction

The goal of segmentation is to partition an image into regions, or objects, that are homogeneous with respect to one or more characteristics or features. Segmentation is a critically important tool for the processing of image data and is often the precursor to other applications such as measurement, visualization, surface-based registration and surface extraction.
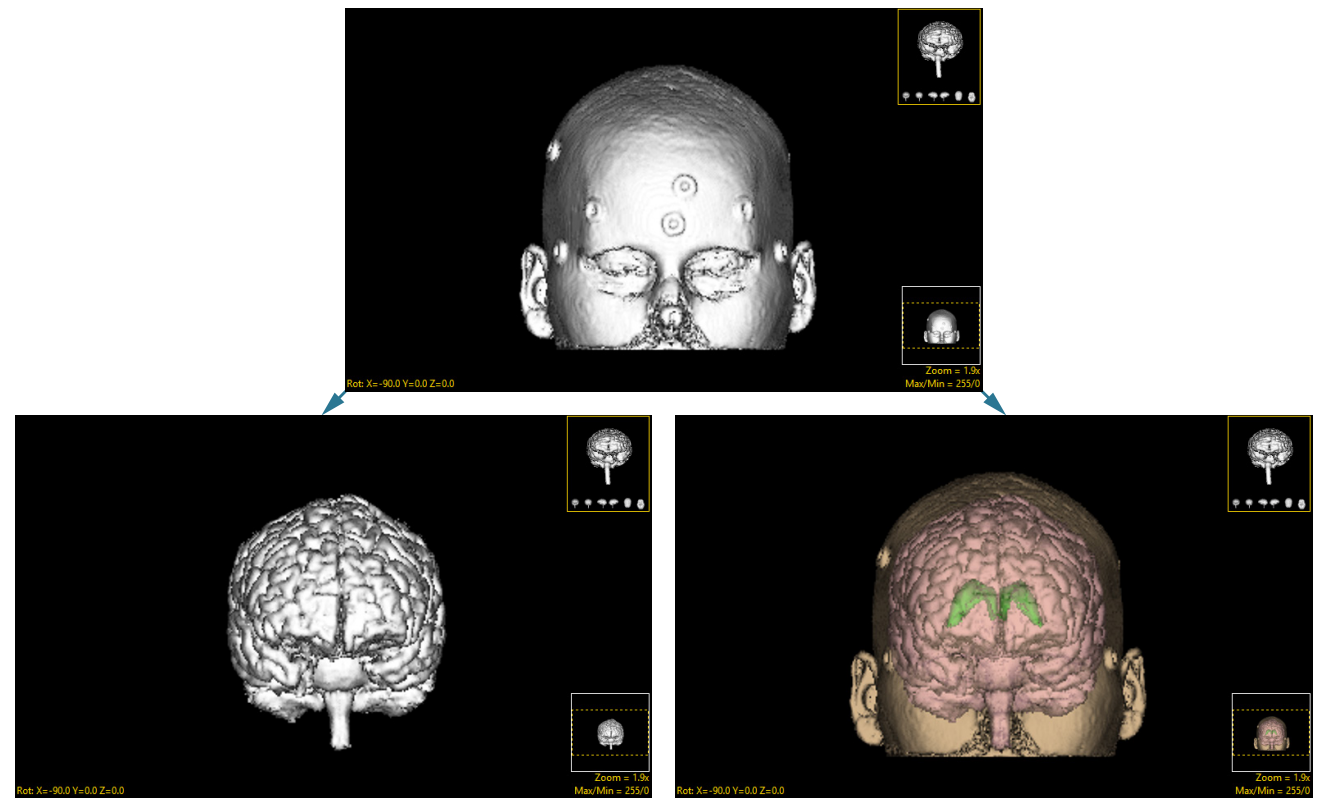
Object Maps

AnalyzePro uses a file called an object map to partition image data into groups of voxels within a segmentation component map. After creation of the object map through segmentation, it can be used to drive visualization, registration, surface generation and statistical analysis.

The object map is an associated volume with the same dimensions as the image data. Each voxel of the object map contains an 8-bit value which encodes it as belonging to 1 of 256 total possible objects. Every voxel in the data set is initially assigned to the first object (Original), leaving 255 additional objects that can be used for 2D region or 3D volume of interest definition.

Object maps are loaded separately from the image data to which they are associated using the File > Load Object Map option in each functional module. When the object map is loaded, the objects defined in it are overlaid on the image data.

Object Map Segmentation vs. Grayscale Segmentation

Grayscale segmentation destroys all voxels that are not part of the object of interest.

Object maps preserve the original data by assigning the segmented voxels to objects.

Segment Overview

Display Control Tools

Axial Slice View

Rendering

Segmentation Options

Sagittal Slice View

Object Controls

Coronal Slice View