

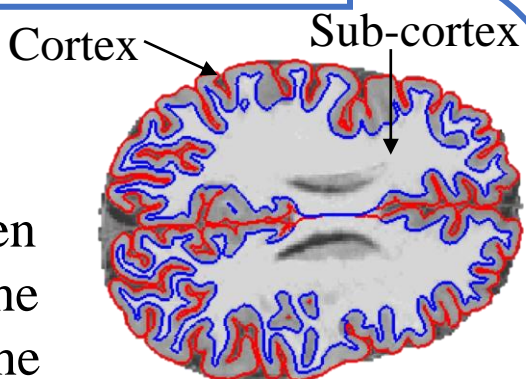
Analyzing the Cortical Thickness of the Primate Brain through the Segmentation of Magnetic Resonance Imaging

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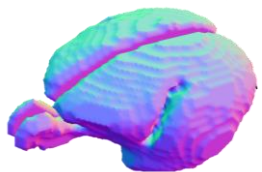
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Background

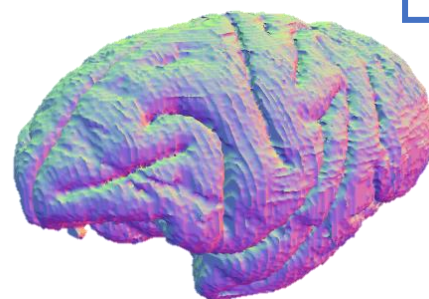
Cortical Thickness: the minimum distance between the surface of the cerebrum and the sub-cortex



Primate brains have a broad range of morphologies that range from lissencephalic to gyrencephalic and from walnut-sized to grapefruit-sized, making them an excellent testing ground for hypotheses on brain development.



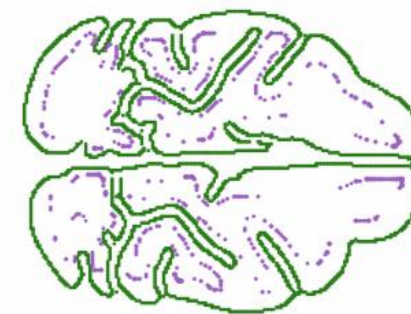
Analysis Pipeline



Volumetric segmentation is done using BrainBox, an open-source software.

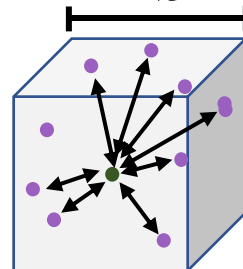


Slice-based contours are found to create a mesh of the brain.



Three-dimensional Euclidean distance calculations to find the cortical thickness

$2b$



The efficiency of the code is increased by constraining the volume where the distances are calculated.