Printables by JOSEF PRUSA

Full-size human brain

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VIEW IN BROWSER

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Summary

This is a full-size model of my own brain, complete with magnets to hold the hemispheres together, and a display stand.

Learning > Chemistry & Biology

Tags: brain brainmri human neuroanatomy anatomy halloweendecoration

This is a model of my own brain, created from an MRI scan. It includes the cortex, cerebellum, brain stem, and corpus callosum. I also made a stand for nicely displaying my brain like a museum exhibit.

I also cleaned up the model for better printing, including reducing the internal geometry for better printing with less filament. If you want to read more about how I created this, you can read the details on my website.

Printing Instructions

These files are high-resolution, and therefore pretty large. It might take the slicer a bit of time to uncompress the 3MF files and slice the model. Also, most of this model prints on supports, so good bed adhesion is essential. I have customized the painted-on supports for the brain models, so I strongly recommend using the 3MF files in PrusaSlicer. The support design

comes from this Filament Frenzy tweet. (This is an improvement on the support design that I used for the version in the photos.)

Full-sized brain, in halves

This model is designed to be printed in halves, with supports, and each half has a pause to insert magnets that will hold the brain hemispheres together. The included 3MF files should have these pauses and supports already included. **Note that currently, Octoprint will not actually pause, so you should print from SD card/USB drive.**

The magnet holes are cylindrical: 5.3mm(D) x 3.3mm(H), designed for **34 5x3mm magnets** (like these). The holes are included as a slicer modifier, so if you want different sized magnets, you can remove these and add your own.

When inserting the magnets, I recommend adding a drop of super glue into the holes before inserting the magnets, to keep them from rattling around in the finished print. Also, be sure to check the orientation of the magnets when you insert them, or the brain halves will pop apart instead of sticking together!

I recommend printing this on a smooth surface (eg, not the textured/satin Prusa sheets) so that the halves mate together nicely.

Brain stand

The stand prints with no supports, and you should be able to just set the brain into it when finished. I used wood PLA filament to make it feel like a really display stand.

Full brain (no split or magnets)

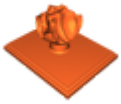
I have also included a file with the whole brain as a single piece, with no split and no magnet holes. If you want to print a solid, scaled down model of the brain, use this model. 50% scale is nice for fitting in the palm of your hand.

Model files

brain-merged.3mf

brain-right-hemisphere.3mf

brain-left-hemisphere.3mf



brain-stand.3mf

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