

Albany Medical College Virtual Brain Model (AMC VBM)
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Description

The Albany Medical College Virtual Brain Model is a unique electronic library of human brain anatomy designed to improve teaching and learning of the spatial relationships of 79 key structures and functional pathways in the nervous system. These easy-to-use pre-built or user-defined virtual models can be manipulated freely in 360-degree rotation on a PC computer with or without corresponding grey-scale MRIs in 3 standard planes. Options include up to 100x zoom, custom color and opacity for each structure. 3D models can be saved for later use or screen-captured for slide presentation or printing.

The database files were created by manually demarcating and colorizing the selected structures on 2D, high-resolution, grey-scale MRI sections from a normal adult subject, then annotating and rendering them in 3D using ITK-SNAP. ITK-SNAP is an open source software application used to segment structures in 3D medical images, developed for the U.S. National Library of Medicine's Visible Human Project. ITK-SNAP is one of many applications built on top of the Insight Segmentation and Registration Toolkit (ITK). For more information, go to <http://www.itk.org> and <http://www.itksnap.org>.

To improve the navigation experience with the Albany Medical College Virtual Brain Model, a user-only version of the software, without the rendering capability, was created by editing the program in Visual C++ Express. The software, image database, and instructions together constitute a file size of less than 100Mb.

While the segmentation, registration, and rendering software used to create the Albany Medical College Virtual Brain Model is open-source, the image database and instructions are not open-source. However, the Albany Medical College Virtual Brain Model is being made available as a public service by Albany Medical College for educational, non-commercial use, at no charge. (See **License**.)

Albany Medical College welcomes inquiries and feedback concerning the Albany Medical College Virtual Brain Model. Please contact Tara A. Lindsley, Ph.D.
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Acknowledgements

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Technical Requirements

Minimum system requirements:
IBM compatible 1.66 GHz processor or faster
Windows XP or newer
2 GB RAM and 100 MB hard drive space

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The Albany Medical College Virtual Brain Model acknowledges the use of ITK-SNAP.
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