数字人科技
DIGIHUMAN

Digihuman Virtual Anatomy Table System

Product Specifications

Dimensions:	length2260mm, width707mm,height750mm
Weight:	185Kg
Display:	2 sets of 47 inch splicing screens with 3.5mm splicing seam
Resolution Ratio:	3480*1080
Brightness:	500 cd/m²
Contrast Ratio:	1100:1
Visual Elevation:	175 °

Model： ECDH-Int I 88

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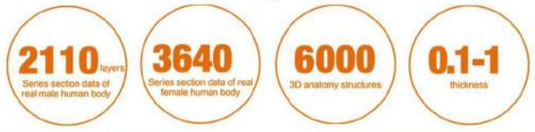
Shandong Digihuman Technology Co., Inc.

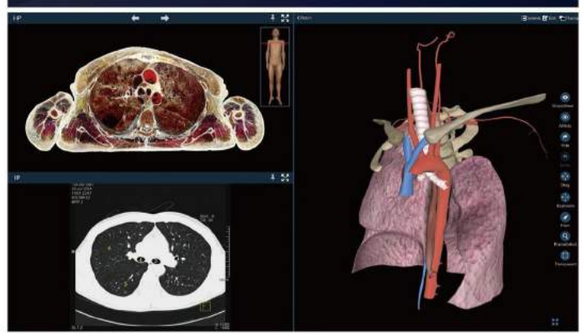
System overview

Digital human is the serial section data of human body , base on picture segmentation、reconstructing the 3D structure，with the male section data 2,110 layers, and accuracy 0.1mm—1mm and the female 3,640 layers, accuracy 0.1mm-0.5mm; at last to reconstruct over 5,000 3D anatomic structures. it is the result which medical science combine with computer technology. According to content of teaching program, the operation and use are very easy. Up now , Echung Digital human is the only product of 3D reconstruction by sectional data .it pass the identification of Chinese Society for Anatomical Sciences

In 2018, Shandong Digihuman Technology Co., Inc., Shandong University, Army Military Medical University, and Chinese Anatomical Society jointly published the "Digital Anatomy Teaching System Creation and Promotion" and won the second prize of national teaching achievement in 2018.

The digihuman anatomy teaching system has the characteristics of originality, standardization, advancement and autonomy. It has been applied to anatomy teaching by more than 220 medical universities in China, which has improved the quality of teaching and led the reform of human anatomy teaching and even the direction of the medicine teaching.





Single show
clear the anatomical structure except the selected one, convenient for user to check the structure.

All hide
Click the all hide button to empty the entire screen.

Hide
Hide the selected structure.

Undo
Click the undo button with the left mouse button on the right side to get back to the previous operation.

Drag
After clicking the Drag button on the right side, the 3D structure in the scene is separable. You can drag the structure by holding the left mouse button.

Explosion
Click the Explosion button to separate all structures in the scene from the center point.

Transparent
After selecting an anatomical structure, the structure is highlighted. Click the transparent button on the right to make the structure transparent. Transparency can be adjusted by dragging the slider.

Paint
Click paint button on the right to paint all the structures in the scene for differentiation.

Frameselect
After clicking the button on the right side, hold the left mouse button and draw a box in the scene. The structure in the box is all selected.

Quick positioning: Quickly switch all 3D structures in the scene to the front, back, side, top, bottom and other perspectives.

360 degrees: All models in the 3D scene can be rotated in any direction.

Focus: Select any 3D structure, and the 3D structure will automatically move to the middle of the screen at an appropriate size for easy observation.

Table of Contents: The general outline and index of the entire digihuman anatomy system. Users can browse through all the structures in the directory structure or precisely select certain organizational structures.

Pronunciation: Turn on the pronunciation button in non-transparent mode, click on any 3D structure, the English pronunciation of the structure will be automatically played.

Painting: draw and edit the screenshot of the structure in the current scene, and the edited image can be saved.

Find: In English mode, you can search for related models by entering the full name of the English name.

Stereoscopic display: The left and right perspectives show the 3D model of the human body. Adapt to stereo teaching. (requires hardware support)

Human body section: The section part is to cut the human body from three directions of transverse, sagittal and crown to form a uniform and continuous section display.

Note: Open the comment function in non-transparent mode and click on any 3D structure to automatically display the relevant comment content of the structure.

Other: Video editing, annotation editing, tile editing, background switching, etc.

1 The digital human anatomy system based on the 3D reconstruction of continuous real sectional images.
The system is developed with continuous real sectional images of human specimen and more than 5000 3D reconstructed anatomical structures.

2 Full-featured digital anatomy teaching system.
The system can display all the human organs and tissues in completely realistic 3D model. Each structure is set with English names and English pronunciation, and all the key structures are marked with detailed annotation and corresponding textual interpretation. The anatomy structures can be rotated and viewed at any angle, The system setting functions including background switching, labeling, separation, transparency, dyeing, stripping, searching, pronunciation, freehand drawing and stereotaxic display etc. it can strengthen the vitality, interest and intuition of anatomy teaching.

3 Student autonomous learning system.
The system covers anatomy teaching contents. Corresponding CT and magnetic resonance images are arranged on the basis of the image of the section specimen. Also provide teaching micro-course video and a large number of digital exercises.

4 Simple and quick full touch operating system.
The system uses full touch operation interface with a 86/55-inch multi-touch system embedded, which has simple structure and beautiful appearance. It can power up to work without any software installation and debugging procedures.

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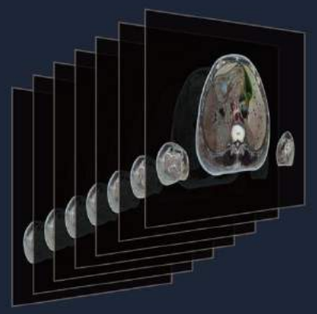
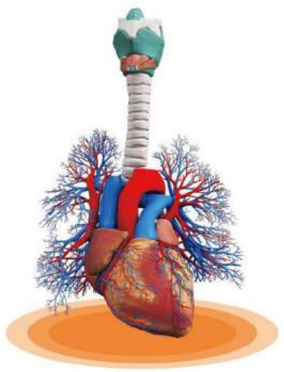
Accurate Data
Clear Image

Section Precision

0.1-1mm

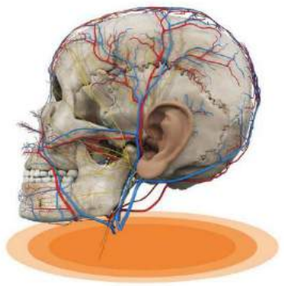
The system is developed using continuous transverse sectional images of human specimens. The section precision for men and women was 0.1-1mm and 0.1-0.5mm, respectively, and the thickness is unequal. In the parts of head and chest, the layer spacing is up to 0.1mm because they need to be displayed finely.





Intra-pulmonary pipe

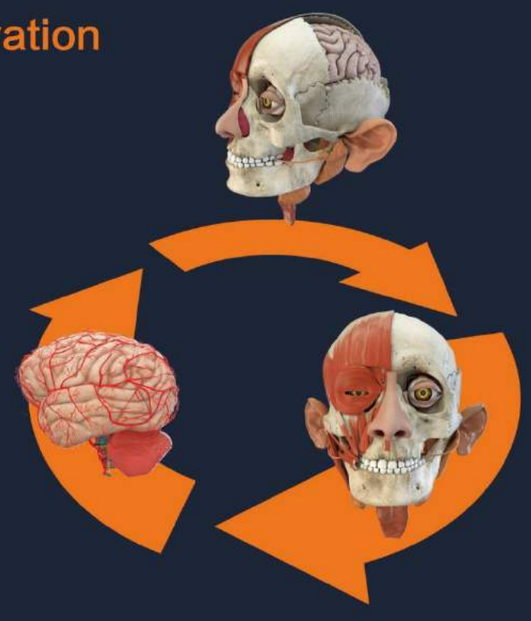
Fiber Bundles in the brainstem

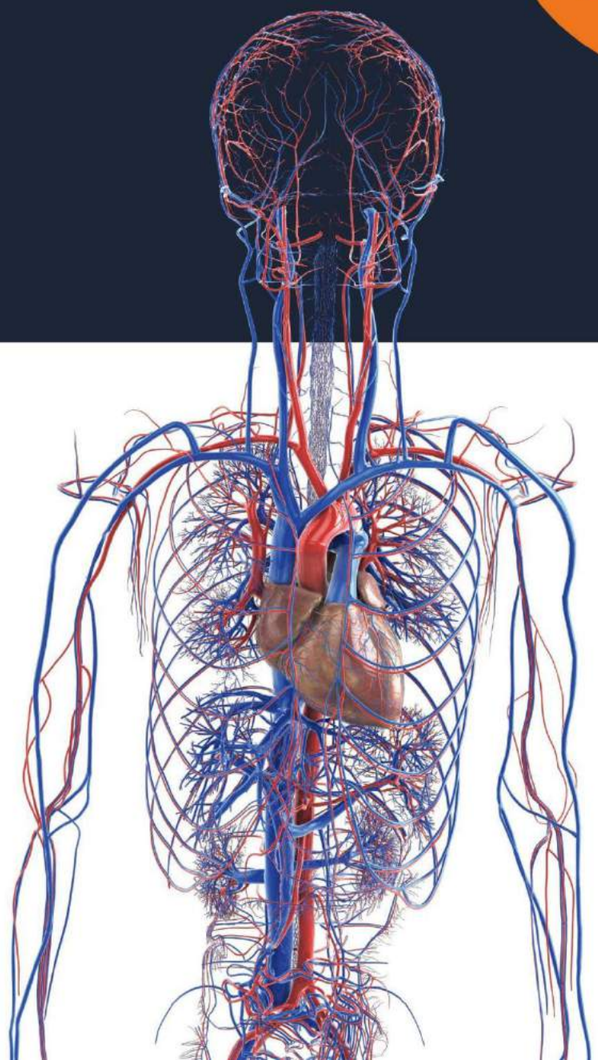


Lateral view of the skull

Multi-angle
Stereoscopic Observation

The digital human can be rotated at any angle and arbitrarily zoom in and out. It can be observed in all directions from the perspective of looking up and looking down. The structures will be more visual and intuitive contrast with the models and specimens.





Arbitrary angle rotation

Arbitrary zoom in and out

3D stereoscopic observation

Product Features

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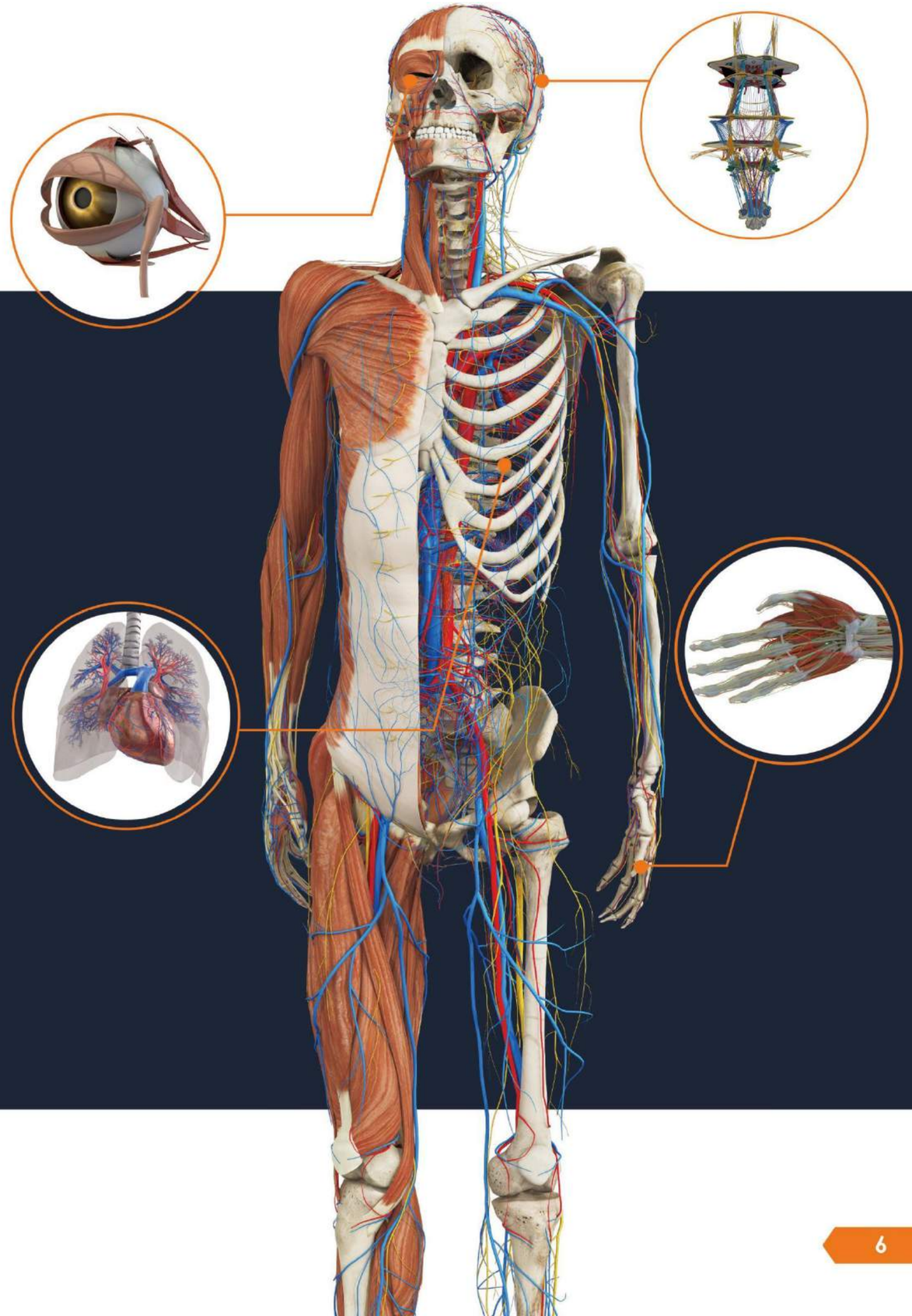
3D Structurs
Fine and Realistic

More than 6000 fine and realistic reconstructed anatomical structures were embedded in ECHUNG Digital Human Anatomy System, which can provide a lot of material for anatomy teaching.

Brain Fiber Tracts



Rich in Functions
Easy To Operate

The system has designed a variety of quick and convenient functions, including background switching, labeling, separation, transparency, dyeing, stripping, searching, bilingual pronunciation, freehand drawing and stereotaxic display et al.

Note: The stereoscopic display function requires hardware support

Teaching Application

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Systematic Anatomy

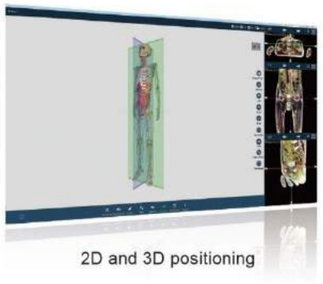
The three-dimensional structures are obtained by 3D reconstruction of real human cross-sectional data. Their position and shape are consistent with the original data. The structures are divided into nine systems. And the three-dimensional morphology of more than 6000 anatomical structures can be displayed.

Nine Systems

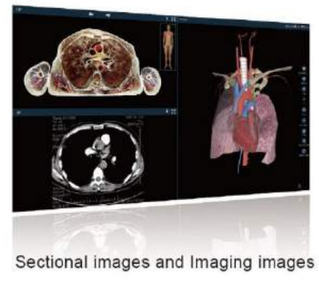
- Locomotor System
- Angiology System
- Alimentary System
- Sensory System
- Espiratory System
- Nervous System
- Urinary System
- Endocrine System
- Reproductive System

Sectional Anatomy

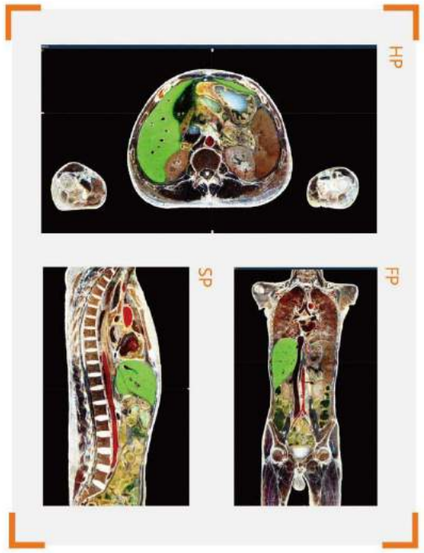
It's easy to obtain sectional images of any section. Using the highlighting function, the sectional structures can be identified, their Chinese and English names can be obtained quickly, and their positions and shapes can be showed in the three-dimensional human body. Which can provide real specimens and imaging images for students' learning sectional anatomy.



2D and 3D positioning

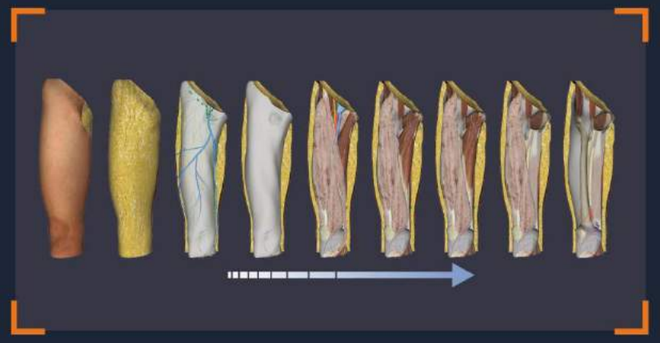


Sectional images and Imaging images

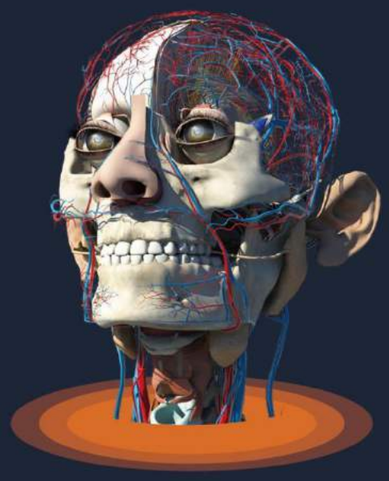


Regional Anatomy

For the teaching of Regional Anatomy, teachers can display the structures from superficial layer to deep layer using the digital human body with stripping and perspective functions. The students are able to build local hierarchical concepts and know the adjacent relationships of the structures even in the classroom. The Digital Human Anatomy System includes a large number of regional anatomy teaching videos to facilitate teaching and students' self-study.



LayerHide



Surface Anatomy

The surface projection of nerves, blood vessels and other structures can be realized with the transparent function of the digital human.