A Search Engine for the Human Body

Microsoft researcher Antonio Criminisi led the development of a search tool that indexes medical images of the human body and automatically finds organs and other structures on computed tomography scans. The software enables users to click on a list of organs and be presented with a touch-sensitive display of the structure. When a scan is loaded into the software, the program indexes the data and lists the organs it finds at the side of the screen, producing a table of hyperlinks for the body. Once an organ of interest has been located, a two-dimensional and an enhanced three-dimensional perspective of the structures in the area are displayed. A new scan also can be automatically matched up alongside a past one from the same patient, which can highlight the progression or regression of a condition. Criminisi says the software was developed by "training machine-learning algorithms to recognize features in hundreds of scans in which experts had marked the major organs. Indexing a new scan takes only a couple of seconds." The researchers are currently developing gesture and voice controls for the system.

Full paper at http://www.technologyreview.com/computing/35076/?p1=A2