
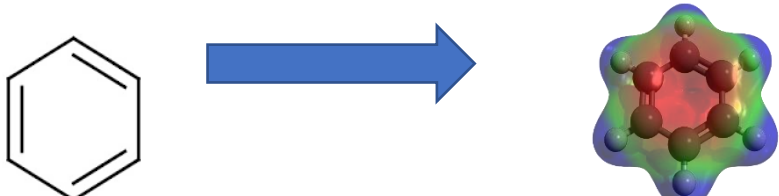
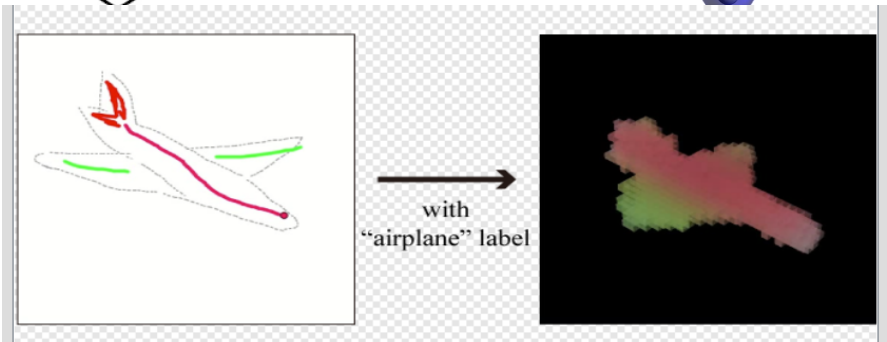
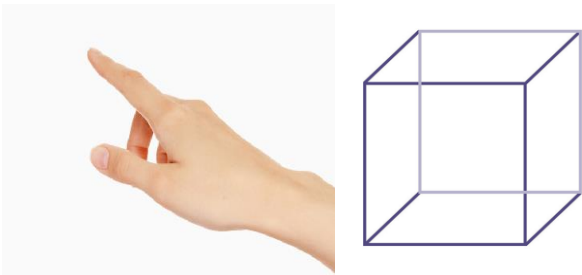
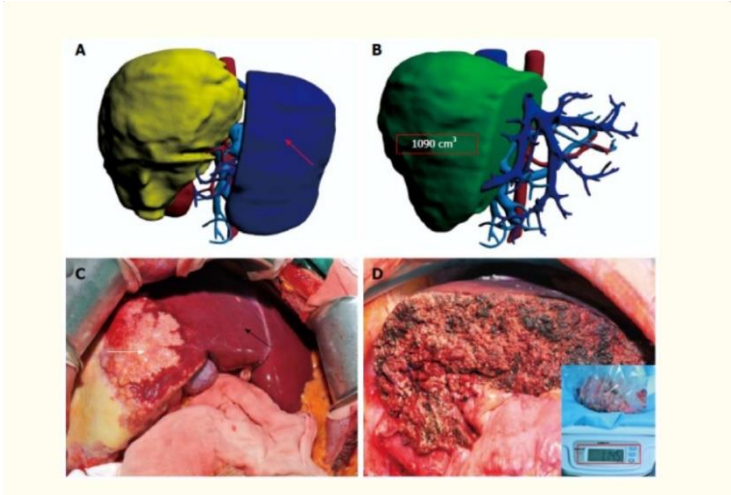
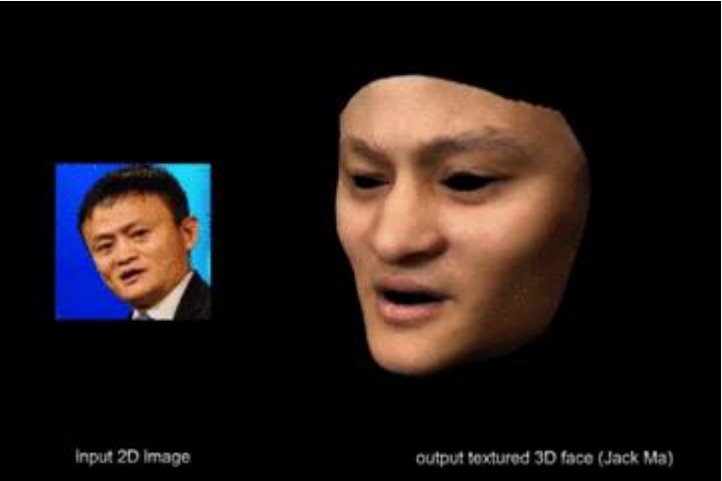


Name:	3-D Scene reconstruction from video feed.
Description:	Mapping environmental objects with respect to a UAV in order to create a virtual world.
Actor:	A UAV, or a single Camera taking continuous overlapping images.
Precondition:	Video feed or a successive image.
Postcondition:	A virtual mapping of the environment.
Working:	
Alternatives:	<ol style="list-style-type: none"> <li>1. Crime scene reconstruction.</li> <li>2. Battlefield imagery.</li> <li>3. Town-planning.</li> <li>4. Interior designing.</li> </ol>

Name	Reconstruction of chemistry compounds/physical objects
Description	<p>Visualizing 3D views of a 2D model to revolutionize the way subjects are being taught in classrooms.</p>   <div> <p>3D visualizations based on hand gestures to draw real time objects:</p>  </div>
Precondition	Multiple 2D images/drawings of chemical compounds
Postcondition	Approximate 3D model of the drawings

Name:	Visualization and model-based therapy planning 3-D geometric reconstructions of individual anatomical structures.
Description:	3D reconstruction provides comprehensive and precise anatomical information for the liver. It also improves the chance of success and reduces the risk of hepatectomy in HAE.
Actor:	A UAV, or a single Camera taking continuous overlapping images.
Precondition:	CT data in DICOM format for all patients of a group were imported into the 3D reconstruction software.
Postcondition:	The software recognizes the liver and reconstructs the spatial structure of blood vessels automatically, and that information is compared with the 2D CT image by image fusion.
Working:	 <p>3D reconstruction of the liver clearly illustrates the positional relationship between the liver, lesions, and hepatic blood vessels. Individualized virtual surgery of the liver was designed based on the reconstructed 3D model for radical resection of the lesion and maximal retention of normal liver tissue. Remnant liver volume was calculated. The diameter of blood vessels in the section was measured. A surgical plan was finalized after optimization of resection planes.</p>

Name	Customised animation
Description	<p>Creating 3D reconstructed faces from various 2D views/photographs</p>  <p>The image shows a side-by-side comparison. On the left, a small square inset labeled 'Input 2D Image' shows a photograph of Jack Ma. On the right, a larger, more detailed 3D face model labeled 'output textured 3D face (Jack Ma)' is shown, which is a digital reconstruction of the person in the input image.</p>
Precondition	Successive images/Burst images from different viewpoints (180 degrees)
Postcondition	Textured 3D Face
Applications	<ul style="list-style-type: none"> <li>• Lip Syncing dialogues</li> <li>• Learning particular text and converting text to unique speech</li> <li>• Colorization/Recreation of historic moments</li> </ul>