


Sl No	Particulars		
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3	PhD Thesis Title	Approaches to Image based 3D Modeling and Rendering of Uncalibrated Images: Optimization Methods for a Single View from Multiple Views	
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5	Date of Registration for PhD	Sep 2004	
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6	Date of Award of PhD degree	Apr 2009	
7	<p><u>Brief synopsis</u></p> <p>The proposed work attempts in reducing the user interaction to a considerable amount and aimed to have user friendliness while generating the 3D models. Here we are proposing a few methods for 3D wireframe modeling from a single image based on the depth cueing and edge length. Depth cueing is a method of representing the 3D objects on a two dimensional plane with varying intensities from foreground objects to background objects. The user interaction involved is to describe only this cue, which gives information about the depth. The 3D points are identified according to the intensity values specified in the depth cueing.</p> <p>On the other side, we found that from the edge length the user interaction can be avoided and the process of wireframe modeling can be automated. In the perspective images, parallel lines appear to meet at vanishing point. It is observed that the vertical edges of same length in world space vary in image space due to the perspective distortion. The length of these lines decreases towards the vanishing point. If we measure the length of each vertical edge segment, the longest edge which is closer to the viewpoint can be found. Then the depth cueing method of representing the object is applied to estimate the approximate depth information on each edge segment.</p> <p>Extending these ideas, a tour into picture was introduced. Given a single view image, the planes are extracted with a fixed reference and then each plane is mapped on to a 3D cuboid. A walk through on this 3D cuboid with photo realistic result was achieved.</p>		