Tour Into the Picture

Computer Vision Challenge SoSe22 - Group 04

Introduction

To provide a sense of dynamism to a planar, static painting, or photograph, a picture viewing tool was developed by our group, using the TIP method (Tour Into the Picture). A manipulatable, three-dimensional scene is constructed by the tool via a GUI (Graphical User Interface) in a combination of two - dimensional picture information with the user's selections. Auto-generated animation and screenshots are also realized.

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Challenges

- The foreground object models are restrictive in dealing with complicated objects.
- The texture of the foreground object is not perfectly inherited from the corresponding 2D regions.

References

Modeling Foreground Objects

Judge Attached Background

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Calculate 3D Vertexes

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Perspective Transform

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Construct 3D Foreground

Image Segmentation

Foreground

Background

Image Processing

GUI

Image Selection

Camera Setup

Animation

Modeling the Background

Spidery Mesh

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Calculate 12 2D-Vertexes of Background

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Fill the Missing Parts

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Extract 5 Regions

Perspective Transform

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Estimate 3D Vertexes

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Construct the 3D Background