

Project Readme: Colorful Clarity

Introduction

"Colorful Clarity" is a Python project that uses OpenCV to transform fuzzy images into segmented, color-highlighted visuals. The project focuses on identifying shapes within a blurry image, calculating their areas, and then painting these shapes in distinct colors for better clarity and visualization.

Objective

- To accurately segment shapes from a fuzzy image.
- Calculate the area of each detected shape.
- Paint each shape with a unique color for enhanced visual differentiation.

Requirements

- Python 3.x
- OpenCV library
- Numpy library

Installation

1. Ensure Python 3.x is installed on your system.
2. Install OpenCV using pip: ``pip install opencv-python``
3. Install Numpy: ``pip install numpy``

Usage

1. Clone this repository to your local machine.
2. Place your fuzzy images in the designated image folder.
3. Run the script: ``python color_clarity.py``
4. Processed images will be saved in the output folder.

How It Works

- Image Preprocessing: The script first applies filters to enhance the clarity of the fuzzy image.
- Edge Detection: Utilizes Canny edge detection to identify the outlines of shapes.
- Contour Detection: Detects contours and calculates the area of each shape.
- Coloring: Assigns a unique color to each detected shape and fills them accordingly.

Contributing

Contributions to "Colorful Clarity" are welcome. Please ensure to update tests as appropriate.

Contact

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