**ARI2129 Assignment**

***Evaluation***

Comparison of two images is performed using a function that calculates the error score based on a specified metric. The two metrics used are Sum of Squared Distance (SSD) and Mean Squared Error (MSE).

***Part 1***

The blended image is compared with the image with two objects (S2) using both error metrics. The lower the square

The image with a single object has its background replaced with 3 other backgrounds.

***Part 2***

6 different sets of images are used in task A. Using both the Telea and NS inpainting functions in the OpenCV library, an object is removed from the scene with two objects S2. The inpainted images are then compared with actual image with one object S1. The results are displayed in figure X.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Telea** | | **NS** | |
| **Set** | **SSD** | **MSE** | **SSD** | **MSE** |
| Statues | 115180351 | 455 | 115914723 | 511 |
| Shot Glasses | 33363637 | 59 | 33704007 | 59 |
| Academic Books | 59162597 | 327 | 61476765 | 383 |
| Footwear | 44000379 | 68 | 46650657 | 90 |
| Mugs | 38383500 | 75 | 40576761 | 84 |
| Technology | 38996685 | 118 | 40382590 | 145 |

Task B once again uses inpainting algorithms, this time over 6 sets of images with complex backgrounds obtained from the COTS Dataset. The results are displayed in figure Y.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Telea** | | **NS** | |
| **Set** | **SSD** | **MSE** | **SSD** | **MSE** |
| Food | 214050543 | 3573 | 214916338 | 3664 |
| Statues | 79180499 | 1738 | 79105387 | 1668 |
| Souvenirs | 73850406 | 2996 | 74686615 | 3077 |
| Academic Books | 93337891 | 3547 | 93754563 | 3476 |
| Cups | 125109291 | 902 | 125000973 | 899 |
| Electronics | 58630734 | 511 | 58714712 | 457 |