

## Daily Log

### Monday, February 10

Sorted critical points by proximity to shadow region based on XY-distance on the image. Arbitrarily chose a point that was in the shadow region to take the XY-distance for all critical points.

### Tuesday, February 11

Used the LAB color values of the arbitrarily chosen shadow pixel in addition to the XY-location on the image to help calculate distance of the critical points.

### Thursday, February 13

Used the mean LAB value of the shadow region to calculate the distance, and used both an arbitrary XY of a shadow pixel and the mean XY value of the shadow region.

## Timeline

| Date        | Goal   | Met   |
|-------------|--|---|
| January 26  | Associate at least 1 key point on the shadow with its respective point on the object     | No. I'm having trouble especially when matching points for irregularly shaped objects.                                  |
| February 9  | Associate at least 1 key point on the shadow with its respective point on the object     | No, I'm still working towards finding better points.  |
| February 16 | Isolate the critical points on the object from all critical points located on the image. | Yes, the critical points closer to the shadow region in XY/LAB distance are the points located on the shadow or object. |
| February 23 | Find critical points for round objects   |   |
| March 1     | Associate at least 1 key point on the shadow with its respective point on the object     |   |

## Reflection

I still have trouble with spherical objects, so I will try to find a way to handle those images next week. If I can't find a quick way, I will ignore images with only spherical objects until after I can associate points on the shadow with points on the object, and then treat spherical object images as a special case. I think setting the past few goals to be to directly associate the points on shadow and object was too big of a leap, so I have been trying to break it up into smaller steps.

Using the XY location of an arbitrary point in the shadow region and the mean LAB value of the entire shadow region worked best to find the 'distance' between critical points and the shadow region. Because some of the shadows are irregularly shaped, using a mean XY value didn't work as well in some cases. However, although it might be slower, I plan on testing each critical point to see if a shadow pixel lies within a circle of some radius around that point.