

My dataset is composed of just over 2,000 images of Aruco markers. 503 are pictures I took myself of 5 distinct markers in varying perspectives, distances, lighting conditions, and orientations. The other datasets I used are more uniform in orientation and have a smaller subset of markers. They will still prove useful as a baseline test, but most of the trickier test cases for robust detection systems come from my dataset. I have used these differences to separate the data into training and validation. I will be using the uniform datasets as well as some slight variants from my dataset for testing. For validation I will be using the more extreme variants such as a very low perspective angle, covering the marker in shadow, multiple markers with different orientations, and blurred markers from camera movement.

The samples I collected were done with my cell phone camera of markers printed out on pieces of paper. I used a flashlight for varying lighting, and obscured it with my hand, body, or a table to create shadows. Image size varies from about 1 - 4 MBs.

Here are the links to the datasets I found online:

<https://universe.roboflow.com/danil-tolmachev/aruco-bhivp>

<https://universe.roboflow.com/ebrlhfr-test/aruco-marker-test/dataset/1>