From the beginning, I knew my goals were a little ambitious, but I tried my best nonetheless. The most time-draining focus of my work was trying to achieve goal 2a by using transfer learning to train the old model to recognize new fruits. I found a variety of resources, and after weeks of fixing small issues, I was finally able to train the model. However, after over 48 hours of training and about 15031 iterations, I had to stop the training because my computer almost broke.

As a result, I decided to shift my focus towards designing and creating the website, which I had been working on intermittently while focusing on the retraining.

I designed a new website, and brainstormed some new features to implement, including a manual search feature as well as a store locator to allow users to find stores that carry the ingredients they are missing.

I have now created a website that recognizes a small amount of fruits and vegetables. It does not recognize anything inedible, thus achieving goal 2b. Using the Flask backend from the old project, the website is able to give users suggestions for recipes using a picture of the ingredients. The manual search and store locator features have yet to be implemented.

This process was difficult, however, by working on this portion of this project by myself, I believe that I became a more versatile developer and designer.

For many households, the problem of food waste seems insignificant: the occasional fruit being left to rot in the corner of the refrigerator, or that long-forgotten can of beans left in the pantry. These wastes, however, accumulate about $241 billion in food waste for Americans in 2019 alone, according to the American Journal of Agricultural Economics. At the same time, a study by Northwestern University found that 23% of American households experience food scarcity as of June 2020.

Obviously, I hope to implement the new features I mentioned above. On top of that, I would like to sharpen up the style of the website, add more items for the model to recognize, and hosting the Flask app I used for the backend somewhere other than my personal computer. Overall, I would like to make the website more of an actual service.