EpiNu Project Challenges — Andre Mao

Image Collection

* For image collection, this process was relatively straightforward for raw food images, as raw foods usually only appear in one form. I think scraping from Google Images was a good choice to make, as this yielded a good dataset.
* For further iterations of the raw food model, I don’t think image collection should be our focus. We have a good baseline for our model, but I believe further training should involve the specialization towards the presentation of foods in the DRC. Our current model can be used as a “baseline” model on which it can be further specialized for different regions moving forward.
* For cooked foods however, I think that the parameters with which images are scraped will have to be experimented with. Since cooked foods can have many different forms (i.e. Fried Egg vs. Hard Boiled Egg vs. etc.), the keywords used to scrape these images will have to be played with.

Image Augmentation

* For image augmentation, I think the augmentations we chose were well chosen. For further iterations and the cooked food models, I would possibly further fine-tune the limits of each augmentation, but I think the general reasoning behind each augmentation would not change.
* The only thing that I’ve noticed is that some of the pictures we see from the DRC contain some fairly heavy glares in the image. I’m not sure if this can be accounted for through augmentations, but something that could be looked into in the future.

Image Labeling

* I think this process went very smoothly. While it took a while to get through the thousands of images that we had, I think that the image labeling process went very well.

Model Training

* For model training, I think the process generally went well. Out of the object detection models, I still believe the YOLO model is the easiest to implement and train as compared to other models. I think we could experiment more with the different versions or even to try and train an R-CNN model just to see how that model would perform.
* For model validation, I think that will continue to be done as we gather more and more images from the DRC. Other than that, there isn’t really any other good way to validate and test the model.