Week 2 Meeting Minutes

COSC426 - Chick Counting Group

September 21st, 2025

Monday 9/15

On Monday, our discussions were split into RGB and Thermal Subsections:

0.1 RGB (Anye & Jason)

Anye walked Jason through functionality of the source code, demonstrating how to extract images from sample videos, upload/label them on Roboflow, download/train the dataset, and how to test the dataset on other sample videos. Helped with manual counting and storage of data from predicted bounding box counts in spreadsheets. Anye also started to find the summer source code/data and uploaded them to GitHub.

0.2 Thermal (Logan & JJ)

Similarly to the RGB group, JJ was caught up in the previous workflow and pipeline. Additionally, the *requirements.txt* file was roughly updated to reflect the appropriate dependencies used within the project.

Tuesday 9/16

During our client meeting with Dr. Peter Wang, we mostly discussed our group workflow and steps moving forward. We specifically discussed our proposed methods for improving model accuracy and reliability. We observed that *YOLO* is very good at tracking the chicks (correctly placing the bounding boxes). However, it does struggle determining the *number* of chicks inside a bounding box, struggling when chicks are grouped together. Therefore, we plan to extract the bounding boxes and run a small "helper" model to specifically determine the number of chicks inside each bounding box. For thermal specifically, we plan to convert the data into specific temperatures, then extract helpful statistical features to pass into a model (such as SVM).

Wednesday 9/17

On Wednesday, Anye & Jason discussed testing on Dr. Peter Wang's high quality camera, discussing different approaches on labeling chicks on Roboflow

to have minimal occlusions to prevent over-counting. It was determined that not every chick needed to be labeled, as YOLO can still learn from just the more challenging labels and would therefore cover more chicks overall. This would also make further segmentation of clusters easier. Logan & JJ further discussed the architecture of the proposed solution on Tuesday, discussing potential model types and areas of optimization.