# Auburn USDA CS Liaison Meeting Agenda

**Date:** 27 March 2025

**Zoom Info:**

* <https://hmc-edu.zoom.us/j/91402147478?pwd=bau13Kp335ceA9YCc3AApWyI5eH6rD.1>
* Meeting ID: 914 0214 7478
* Passcode: CLINIC2025

**Meeting Goals**

* Demonstrate progress towards goals

**Agenda**

* We gave a presentation
  + We will use feedback for our final presentation in May. If you have any, let us know!
* GUI Updates (Mehrezat, Devanshi, Lillian)
  + Continuing to add final features
* ML Updates (Zach, Milo)
  + Finalized list of data augmentations
  + Getting everything set up for hyperparameter tuning
  + Improving UNet
  + Prepare report for Dr. Cooper next week
* Upcoming Dates
  + April 4: Report for Dr. Cooper
  + April 11: Feature Freeze
  + April 25: Code Freeze
  + May 6: Projects Day

**Assigned Notetaker:** Milo (Zach Backup)

**Minutes**

* Merezhat updates: data border
* Devanshi: scroll bar and window position indicator. Working on stop labeling indicator
* Zach: working on augmentations, think scaling amplitude and warping (scaling x axis) both make sense as well as frankendata. Thinking about mixup, would require changing the data handling and is not worth the time it takes.
* Dr. R: include the fact that we were interested in mixup but didn’t have time in the final report
* Milo: UNet overfits a lot and has a small receptive field, this week worked on fixing the receptive field issue and make it less prone to overfitting
* Zach: reports will be sent to Dr. C by next friday, a description of the models and what is going on
* Dr. B: question about having 2 Ws due to augmentation. Have a long list of errors and have a statistical analysis package check for errors present in the data. Could there be a list of rules our model ingests?
* Milo: This is similar to the HMM/HSMM, the transition matrix can encode the rules of the data in the same sense as the individual rules in the statistical package
* Dr. C: things in the report: table of EPG papers from the literature, training curves, normalized confusion matrices, supplementary table for everything we tried but did not move forward with. Writeups of models in lay terms and appropriate CS terms. What models are the best and how we evaluate them.
* Dr. R: making sure that we can get this report to Dr. C, and what pieces can be sent when. Could this model ever be used for a different species and make splits on its own
* Z: no, our models require labeled data (supervised learning). CLASP is similar but doesn't perform well enough
* Dr. C: Currently the program requires the user to give it rules? (Z: yes)
* Dr. B: important to get all sets of software (our software, annotation software, last year software) working
* Z: Mehrezat is working on duration counts and other summary statistics
* Dr. B: will produce 2-column formatted text file with waveform, start time, end time? (Z: yes)
* Dr. R: forward thinking, one of the goals for the future is the link these software packages and include backend analytical capabilities. Write comments on what we might want to do in the future
* Mehrezat: already working on durations, can add a count as well. Will go in and look at what information the other software displays, and see what is reasonable to make our software display
* Dr. B: Annotation during display is a very important feature
* Prof. H: we could test it out by simulating streaming data
* Mehrezat: ask the engineering team to run that
* Dr. R: just look at their post-aquisition software. Need to figure out how all clinics come together, and make sure we can bring them together in the future.
* Dr. C: liked the presentation a lot, one of the example waveforms did not have ingestion