# **Note that this notebook was only used during the Fall Semester. There is no Spring Semester Notebook.**

# Table of Contents

[Table of Contents](#_ge2al7yg8teo)

[Acknowledgements](#_lpsl5sar1q1s)

[Funding Acknowledgement](#_pydj8wppafyz)

[Collaborators](#_40f6qkngj6im)

[Logos](#_efkrox94f295)

[Minutes](#_2xeqgisx8pi5)

[30 August 2024 (Liaison)](#_ou3ixbwq1l60)

[3 September 2024 (Team)](#_ewdss22e2kqt)

[9 September 2024 (Advisor)](#_5seagm5vj5ci)

[10 September 2024 (Team)](#_d3ebqfneabx7)

[12 September 2024 (Liaisons)](#_xdqge7k7lreh)

[13 September 2024 (Team)](#_4772lpkwsj8t)

[16 September 2024 (Advisor)](#_nkyawegm4x7m)

[17 September 2024 (Team)](#_c0c8jzvxtn59)

[19 September 2024 (Liaisons)](#_epu9t6tuxsv6)

[20 September 2024 (Advisor)](#_503q9uu59ez7)

[7 October 2024 (Advisor)](#_dod9m8mchbtg)

[21 October 2024](#_s700xisxji7r)

[28 October 2024](#_wq5kmv3f3iui)

[11 November 2024](#_f4naqps9fnp0)

[2 December 2024](#_i1y6yya0qvrh)

# Acknowledgements

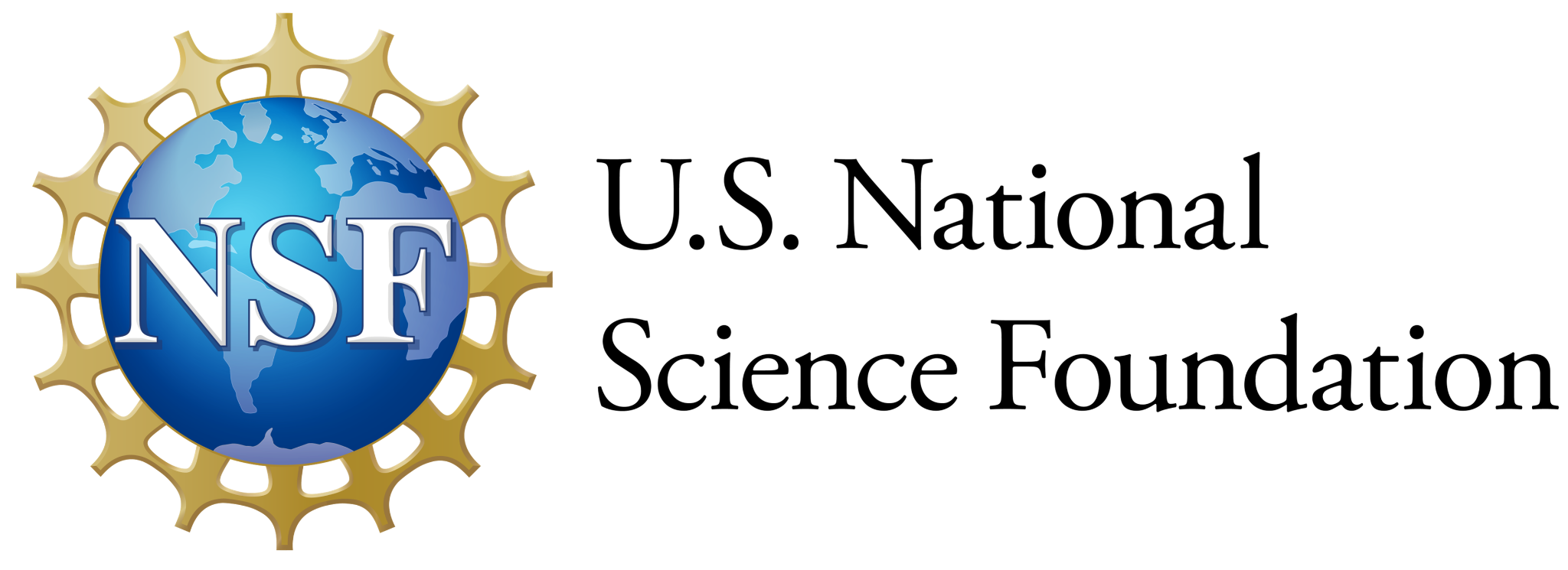
## Funding Acknowledgement

* USDA (58-2034-3-445)
* USDA (58-3022-4-034)
* NSF (DBI - 2304787)

## Collaborators

* Harvey Mudd College
* USDA-ARS San Joaquin Valley Agric. Sci. Ctr.
* Auburn University College of Veterinary Medicine

# Logos



# Minutes

In general, longer meetings’ minutes can be found in the Meetings folder. Notetaker order is cyclical and follows this order (established during the 9 September meeting):

[primary notetaker], [secondary notetaker]

Zach

Milo

Devanshi

Mehrezat

Lillian

## 30 August 2024 (Liaison)

See minutes here: [USDA\_Auburn\_Minutes\_08302024](https://docs.google.com/document/u/0/d/1I_sEwwZ4PvTD8mCBvLpZRdFjv6isbcmeAZ7XA0YxUsA/edit)

## 3 September 2024 (Team)

Present: Zachary, Milo, Mehrezat, Lillian, Devanshi

Location: Sprague, 11-12:15

Topic: Team Contracts and More! See gradescope assignment with the same name to see what we worked on.

Action Items: Mehrezat will submit a logo.

## 9 September 2024 (Advisor)

See minutes here: [Sep 9, 2024 | Clinic Advisor Meeting](https://docs.google.com/document/d/1a-UqGwBrZL1KPlfAQBJGMXD879W_-ttDvtFO-vohlYg/edit?usp=sharing)

## 10 September 2024 (Team)

Present: Zachary, Lillian, Milo, Mehrezat, Devanshi

Location: Sprague, 11-12:15

Topic: Status Updates and Statement of Work Outline

Action Items:

* Make and sent agenda to Liaisons (Mehrezat)
* Make repo (Mehrezat)
* Get github username to Mehrezat (everyone)
* Milo will do ML boilerplate
* Zach will do some more ML boilerplate
* Lillain will get a better idea of the R-emf tradeoff
* Devanshi will do some background research in ML

## 12 September 2024 (Liaisons)

See minutes here: [Weekly Digest 2024-09-12](https://docs.google.com/document/u/0/d/1NraUmUrIgDf1BEAIC6kPDWgCofFscgdNupkJIBme9Vk/edit)

## 13 September 2024 (Team)

Present: Zachary, Lillian, Milo, Mehrezat, Devanshi

Location: Makerspace, 4:15 - 5:15

Topic: Statement of Work Planning

Action Items: Everyone will complete their assigned section of the Statement of Work by Monday evening, when it is due.

## 16 September 2024 (Advisor)

Present: Zachary, Lillian, Milo, Mehrezat, Devanshi, Prof. Hope

Location: Prof. Hope’s office, 4:15 - 5:15

Topic: Statement of Work, Data Sharing

Action Items:

* Lillian, Mehrezat, and Devanshi will write their sections of the SOW and paste them into the overleaf
* Zach and Milo will paste their sections into the SOW
* SOW will be submitted between 11 and 12 PM
* We should have someone do data cleaning / compilation this week
  + Who: Zach
  + How: Converter from WinDaq to CSV, Python for further work
* We should begin ML stuff this week
* Everyone needs to read the papers sent by Dr. Backus
* Mehrezat will read and respond to all of Dr. Backus’ outstanding emails

**Q3 What remaining tasks or questions do you have about the Statement of Work?**

For full credit, please include not just the major outstanding tasks, but also which team member(s) are responsible for those tasks:

**Our remaining tasks are:**

* Review other members’ sections. In order to improve the cohesiveness of our statement of work, we will have members review each other’s section, providing feedback and making any adjustments that we deem necessary.
  + Zach reviews Milo section: Roadmap
  + Milo reviews Devanshi section: Introduction
  + Devanshi reviews Mehrezat section: Schedule and Conclusion
  + Mehrezat reviews Lillian section: Background
  + Lillian reviews Zach section: Problem Statement
* Important points we want liaisons to give feedback on: we’ve mentioned in our questions of the SoW, we also want to narrow the scope of our project down so that we are certain about exactly what we will be bringing to the table as a deliverable. We will discuss this in our next liaison meeting.

**Questions about the statement of work:**

* What are our objectives around the user interface and what requirements do they have to make our tool easy to use?
  + What platforms do they need to run on, how it should accept data, how researchers should interface with the tool (should it show labeled regions by the model, should it look similar to WinDaq)
* Is our proposed schedule acceptable for the liaisons in terms of when we do our site visit?

## 17 September 2024 (Team)

Present: Zachary, Lillian, Milo, Mehrezat, Devanshi, briefly Prof. Breeden

Location: Sprague, 11:00-12:30

Topic: Statement of Work Workshopping

Action Items: See gradescope submission for more information but generally beefing up the details of our respective sections before submitting a draft to Prof. Hope and gradescope tonight.

## 19 September 2024 (Liaisons)

See meeting notes here: [9/19/24 Minutes + Agenda Auburn/USDA CS](https://docs.google.com/document/u/0/d/1zJQgW-JbM-yxnyZAq7Eg-QnS6m6Vt92RmkgskhBks24/edit)

## 20 September 2024 (Advisor)

Present: Zachary, Lillian, Milo, Mehrezat, Devanshi, Prof. Hope

Location: Prof. Hope’s office

Topics:

* Prof. Hope will work on the SOP
* Discussion of aphid data: we should probably spend an hourish or so to understand the data but it isn’t really the focus of our work to be annotating aphid data.
* We broke down the focus into two groups
* Prof. Hope says that he approves our SOP once we’ve implemented the suggestions
* Mehrezat will start office hours sometime soon

## 7 October 2024 (Advisor)

This week’s work:

* Lillian: Digital filtering and working w/ Zach on modeling
* Devanshi: Investigating Markov model stuff
* Zach: Continuing model work
* Milo: Continuing neural network approach
* Mehrezat: Continuing interface work, get components working and style post engineering meeting

We need to talk about licensing with our liaisons.

* What did the team do last year?
* What is the engineering team doing now?
* Who pays for commercial licensing?

Ideas for liaison meeting

* Learn more about justification for labeling from Dr. Cooper
* Licensing
* Steps we’ll be taking

## 21 October 2024 (Advisor)

* What is the frequency they’re using
* For manual identification (e.g. for J) we could add customization to the interface
* Ask clinic directors for last year’s final report
* Annotators had knowledge of recordings beyond the data–e.g. Gain was raised here. How much did that impact the annotation? Is it crucial knowledge? A model won’t have any way to think about those things.
* Prof. Hope is thinking about machine learning, will update us on Thursday
* For now, work on interface, preprocessing, meeting with engineering, presentation

## 28 October 2024 (Advisor)

* Should be using post-rect data instead of pre-rect

## 11 November 2024 (Advisor)

* Site visit
  + End of February
  + Ask about weekend vs. weekday
  + Milo prefers to be on campus Friday
* Lillian worked on data cleaning for the adis egypti set (60 unlabeled, 10 labeled)
* We should talk about stretch goal feasibility and planning
* Bring up some ml concerns on Thursday (Milo)
* Could give a trainable model with a disclaimer that it might not work well for everything

**Planning**

<https://www.figma.com/design/HpSejoMr9t4PqCX7beRkHb/Untitled?node-id=0-1&t=ni6qchWOxcSaqhhQ-1>

DATA WINDOW

* data plot
* labels and vertical grid
* scrolling horizontally
* zooming horizontally and vertically
* window position indicator (vertical line cursor thing) with time label
* adding comments to current time position
* ability to adjust section borders by dragging

EDIT MODE

* Move transitions around
* Change labels on sections
* Add / Delete Transitions

LABELING RESULTS

* colored sections between transitions
* confidence indicators with critical threshold
* Letter labels shown somewhere

BUTTON CONTROLS

* upload data
* begin labeling
* download labeled data
* gray out unusable buttons

LABELING PANEL

* progress indicator
* stop labeling button while running
* average confidence indicator
* number of flagged critical sections
* button to switch to edit mode

DATA IMPORT / EXPORT

* Choose files to label
* Export file with labels

## 2 December 2024 (Advisor)

* Discussion of Thanksgiving breaks
* Devanshi might be at home???
* Prof. Hope will get us feedback on MYU

## 3 December 2024

* We all filled out a whentomeet with our availability for next semester
* We decided on when we would have team work sessions
* We still need to figure out when our advisor meeting will be next semester