Presentation 2
• Links to presentation(s) and code(s) on GitHub

Presentation:
https://docs.google.com/presentation/d/19nkjkmNrdSh5d7TP2qkPXQKUFbikS9LrFrL17EElqhY/edit?slide=id.g39c03205b6a_4_0#slide=id.g39c03205b6a_4_0

Code:
https://github.com/arvindkrishna87/STAT390_CMIL_Fall2025/blob/0bec85f54ef5d2a452f26c06ed98106d4f87a200/Code/MIL/Updated_Architecture_MIL_Week_2.ipynb#L2360-L2386

• What did you do?

I worked on the logic and code of the AttnMIL class to implement the updated architecture that calculates attention at each level and compiles information from each stain. I tried a few different methods: the first was creating new AttentionPool classes at each level and the second was only modifying the AttnMIL class by implementing Krish's recommended pseudocode from class. However, both resulted in errors given the new Data Loader used. Paisley's code builds off of these ideas and successfully removes the errors I was having.

• How does it help the project?

This code achieves the project's goal of using the most important information from the patch, slice, stain, and case levels to inform model predictions. The AttnMIL class specifically implements the proposed architecture from presentation 1.

• Issues faced (if any)

When running the code to train the model, I experienced many errors related to dimensionality issues with the DataLoader.

• Attempts to resolve issues (if any)

I met with Noah and Aryaman to discuss possible structures for the AttnMIL class. We had initially talked about making multiple AttentionPool classes, but the mentor meeting recommended only modifying the AttnMIL class.

• Issues resolved (if any)

Paisley's code was able to overcome the errors I was experiencing. She modified the training definition to adjust to the Data Loader, which solved these issues.

• Next steps

Next, we will need to finish training for all 5 epochs to see if the results are comparable to Luna's updated results using last quarter's code. We can also spend time tuning hyperparameters, as the current code uses recommendations from ChatGPT and DeepSeek.

• References (Mention if you built up on someone else's work)

ChatGPT was used to help implement the AttnMIL ideas and debug.