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

Presentation:
https://github.com/arvindkrishna87/STAT390_CMIL_Fall2025/blob/main/Presentations/Presentation%205%20-%20STAT%20390.pdf

Code:
Attention visualization code:
https://github.com/arvindkrishna87/STAT390_CMIL_Fall2025/blob/main/Code/Patching%20code/Patching_Code_Attention_Annika.ipynb

Final trainer:
https://github.com/arvindkrishna87/STAT390_CMIL_Fall2025/tree/main/Code/MIL/MIL_trainer_9Dec_JointFinal

• What did you do?

The original patch visualization code had problems with the gradient color and there was a mismatch in the run used for the graphs (attention vs patch index) and the visualization code. I fixed these issues and added code checks to verify accuracy. I also modified the patch export pipeline portion, to prevent overwriting the original patching code results.

For next quarter recommendations, I researched using Optuna for hyperparameter tuning.

• How does it help the project?

The attention visualization code illustrates if there are regions of the slice receiving high attention and adds to our attentional analysis. The side-by-side image with the original patching code provides a quick way to view what high attention patches look like.

We explored hyperparameter tuning a little bit this quarter but there is still room for improvement. Optuna is a plausible solution that the next quarter can implement. The information in the presentation will hopefully make it quicker for new students to get started in this area.

• Issues faced (if any)

There were some bugs in the attentional visualization code.

• Attempts to resolve issues (if any)

Used GenAI tools.

• Issues resolved (if any)

The code now successfully runs.

• Next steps

Next quarter students are recommended to try our suggestions related to creating more data, implementing attention regularization, and hyperparameter tuning. The attentional analysis has many functions that can be used to monitor the performance of any changes.

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

GenAI tools
Spring Quarter Patching Code