

Mohammed Uddin 2652-LEC

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Project Title: Automated Left Ventricular Segmentation

**Time Log From 4/8/2024 - 4/14/2024**

**10 Hours**

<b>Date</b>	<b>Duration</b>	<b>Type</b>	<b>Description of completed work</b>	<b>Challenges and/or next steps</b>
4/8	3 hours	Coding, Testing	I went through the process of adding a higher weight to the minority 1s class and the model does seem to be trying to predict the 1s now. I messing around with values but the model either predicted a massive amount of 1s or not enough 1s.	Research methods of finding the best way to add weight to a minority class without adding too much or too little weight
4/10	4 hours	Research, coding, testing	I found a method of finding the best weight value for a minority class and it is working great based on the low loss value I got.	Evaluate the model's predictions with a validation set
4/12	3 hours	Organization, Coding, Testing	I prepared and organized the validation set similar to how the training set is preprocessed. The model seems to be predicting well on data it has never seen before according to my loss functions. I changed around different parameters like batch sizes and adding layers. I'm getting good results according to a Binary Cross Entropy Loss.	Fix the dice loss function that'll measure the area of overlap between the model predictions and the actual masks. Also, prepare images for Professor McNeil to see the model performance.

**This Weeks Summary**

After some more research and trying methods to make the model pay more attention to the minority class, the project seems about done. The model predicts a similar amount of values to those in the true segmentation masks. I didn't get to code much because of tests for other classes. I will prepare the photos for Professor McNeil to see soon.