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Project Title: Automated Cardiac Segmentation

Time Log From 2/26/2024-3/03/2024
14 Hours total

Date	Duration	Type	Description of completed work	Challenges and/or next steps
2/26	3 Hours	Checking in and research	I met with my supervisor (Professor Mcneil) and discussed new project plans with him. He convinced me to create my model for the project and suggested what I should do To make the model. I researched how to make a model and found that I needed to make new data that the model would use for ground truths to train.	Download the necessary libraries and attempt to make the new data for the model
2/27	4 hours	Research and Data manipulation	I learned about a scikit-image, a library that will help in saving the ground truths. I also downloaded a lot of data science libraries that will aid in the coming future. Libraries like matplotlib, and PIL. I also realized that the data I initially found was very unorganized. I researched and aggregated data that the creator posted on a different website.	Make a plan to extract data from the manual contours for designated images. Make a Python script that'll iterate through the directories and make masks for images that have a contour
2/28	3 hours	Coding	I made a very logical script for making the binary masks, however, I'm having technical difficulties running anything because Python can't seem to be able to find any libraries on my system.	I will meet with Professor Mcneil to discuss if he may know a solution to my technical difficulties and if the logic for making the masks seems right
2/29	2 hours	Meeting and coding	I resolved my technical issues. I met with my supervisor and discussed how I would make the binary masks and he agreed that the logic was good. After some debugging, the masks were made.	Prepare the upcoming deliverable. Aside from that I need to work on making and training my own Unet model
3/1	1 hour	Organization of repository	Had to break up the data I got after organizing it further to make the making of the binary masks easier. Also had to organize how my workspace would be set up due to the file size limit for git pushes.	
3/2				
3/3	1 hour	Deliverable	Submitted the demo deliverable	

This Week's Reflection

I made the binary masks necessary for training the model. I ran into a lot of issues while trying to make them. With Professor Mcneil's advice, however, I debugged and managed to complete this vital step in the segmentation of the left ventricle. In the coming weeks, I will work on my own implementation of a Unet architecture model and train it on the data I have. Then I will test it against other models with transfer learning and see if I could tune my model to be better