

December 20

Today I chose the project topic and began planning the overall direction and just got everything planned out.

December 21

Started background research on prosthetic hands and control challenges and just got some background information down. Found a template on canva and started the first few slides.

December 23

Researched EMG-based prosthetic control and identified key strengths and limitations - finished up the introduction and got the problem/hypothesis down.

December 24

Continued research by exploring EEG-based control systems and common signal issues.

December 26

Compared EEG and EMG approaches and brainstormed how I can show a hybrid control system.

December 27

Planned the structure of the presentation and outlined main sections.

December 30

Continued slide development and refined the explanations for pros and cons.

January 2

Decided to demonstrate hybrid control logic using an AI simulation due to time and health constraints.

January 3

Planned how the simulation would work and mapped actions to represent EEG and EMG signals. Finished up the slides.

January 5

Started coding the AI detection model using ml5.js.

January 7

Continued coding and tested hand and mouth detection accuracy.

January 9

Adjusted detection thresholds and finalized simulation logic. Also wrote the code for decision logic simulation on pycharm.

January 11

Today, I added visual feedback to indicate when prosthetic movement would occur.

January 13

Practiced explaining the simulation and planned integration with video clips.

January 14

Today, I finally got all the clips recorded for the presentation video.

January 16

Reviewed footage and selected the most effective clips and sent them to my computer to edit.

January 17

Edited video clips and added transition text between sections.

January 18

Revised slides to improve clarity and timing with the video.

January 19

Made final adjustments and made sure it looked good.

January 20

Today I finalized the video and this logbook and finished the project.