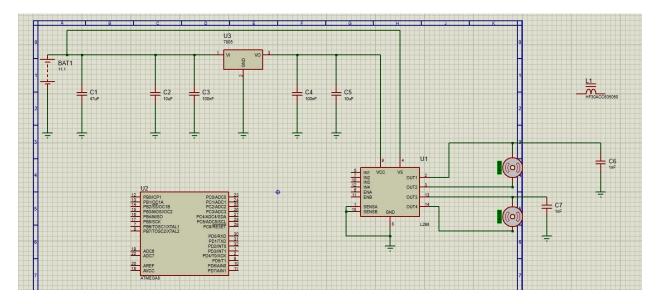
## Day 1 12/8:

## Hardware and firmware:

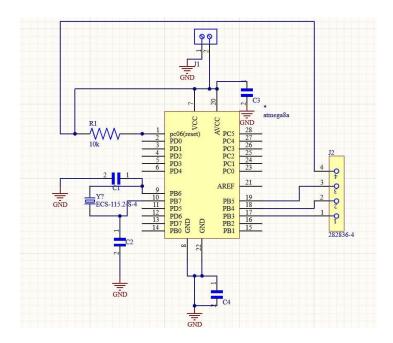
Today, we made good progress by focusing on the basics of our project setup. We designed a simple schematic that includes an 11.1V power supply to handle the motors, ensuring they get the voltage they need to run smoothly. For the L298 motor driver and the ATmega8 microcontroller, we added a 7805 voltage regulator to provide a steady 5V output. We also considered including bypass capacitors and decoupling capacitors to enhance the stability and performance of the circuit.



Current proteus Simulation

With these elements in place, the schematic might be ready by tomorrow. Once it's finalized, we'll move on to Altium to create the footprints for each component, setting the stage for the next steps in our design process.

We searched for the ATmega8A IC and learned how to use it. we created a schematic for it, along with the IC's scheme and footprint, but it needs more modifications. we also made the schematic for the microcontroller circuit. Tomorrow, we will complete the modifications for the circuit and try to finish the other circuits



Current schematic using the Atmega8a

## **Computer Vision:**

Regarding the video stitching task, we first implemented the ORB algorithm. It worked perfectly for the required task, but it took a lot of time (around 5 minutes) and the code is kind of complicated. So, we are currently working on dividing each video into a set of frames and then using the Stitcher class, which is implemented in OpenCV, since processing images (frames) using the Stitcher should be easier and offer better performance. By tomorrow, we'll decide which algorithm will be used.



Sample of the output of the ORB algorithm (using the low quality video)

## GUI:

Concerning the GUI segment, several researches have been conducted and recap on interface basics(through session) including dealing with Qtdesigner and PyQt6 modules and classes. Tasks have been divided equally across members and timeframe has been set for each task.

Application is yet to be started, but mainly plan has been put and to be implemented as soon as possible