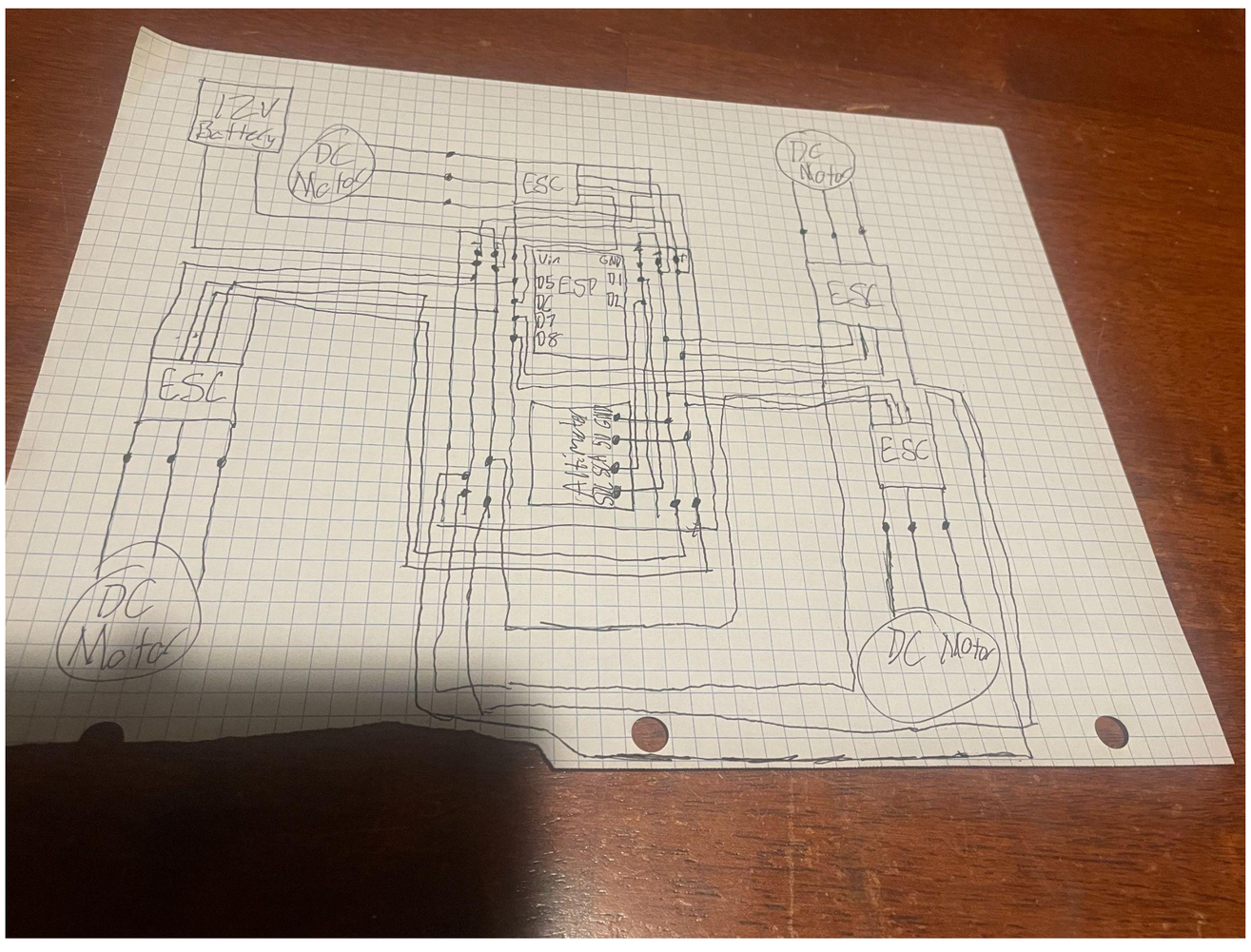
A Drone with Automatic Take-off and Landing Functions

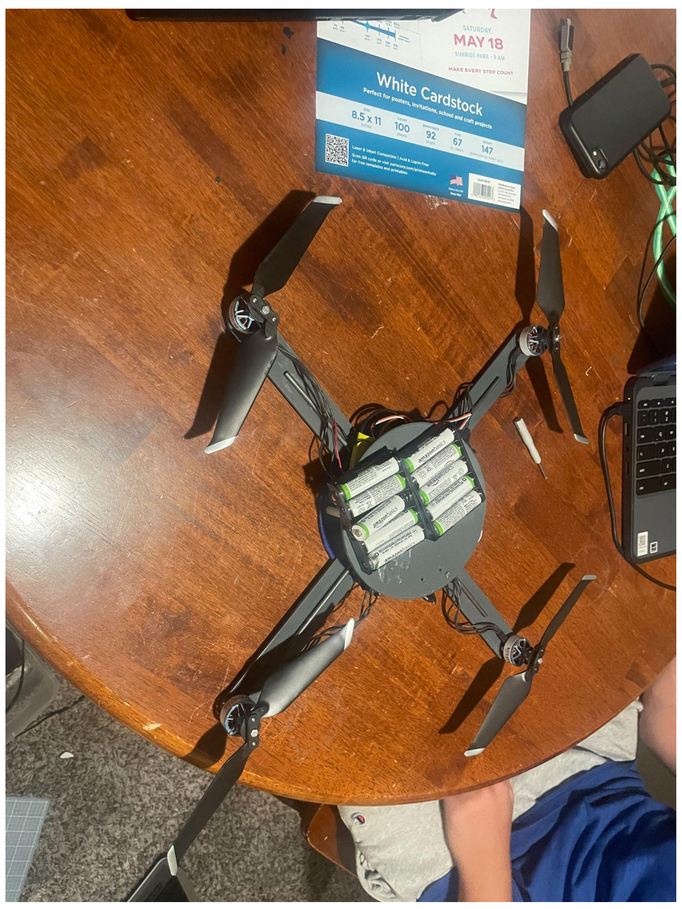
Our design process was a bit all over the place because we didn't research what it would take to build a drone before we decide to and we made some blunders along the way. We first researched about the acceleration and type of propellers and the amount of power we needed for it. Once we did that we started to design the base for the drone and ordered motors. After a couple tests for the base we decided on the final design. Then we ordered motors, but once they arrived we realized they needed an Electronic Speed Controller (ESC) to be able to run them because the motors were brushless. So next we ordered the ESCs and while they were coming we started working on the code and gyroscope (we later just changed to an altimeter). Once the ESCs arrived we experimented with making the motors move for a while to understand how it worked and what to do. Next we started using Blynk to control the drone on our phones, so we learned how to code it in and how to utilize it which took a bit. Once we learned how to use Blynk we started to finalize the code and work more on the hardware of the drone itself. We soldered the

Schematic Sketch



We 3D printed a base with 4 legs that we attached with screw and glued rods onto to make the legs more stable and able to hold more weight. On the ends of the legs are the motors with the circuit board on the bottom base and the battery pack on the top base

Top Side



Bottom Side