



Custom Drone Research

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Intellectual
Achievement
and Research

SUMMARY

Summer of 2019 I began research under Dr. Cao of the Electrical Engineering department of UTSA. This is the first time I have ever done research and first time working with drones. My first day of research I was given a frame of a drone, a Raspberry Pi 3, and Navio 2 control board for the Pi, and told to make it fly. I had no idea how to even connect the computer to the frame, let alone make it fly. There was a steep learning curve and because the drone is custom there was no start to finish tutorial. I was the sole person managing this project from idea conception to flight. Within two months I went from not having any experience with the construction of drones to having my custom drone flying. This has been one of my personal greatest achievements in rapid learning and application of that knowledge.



SPICES

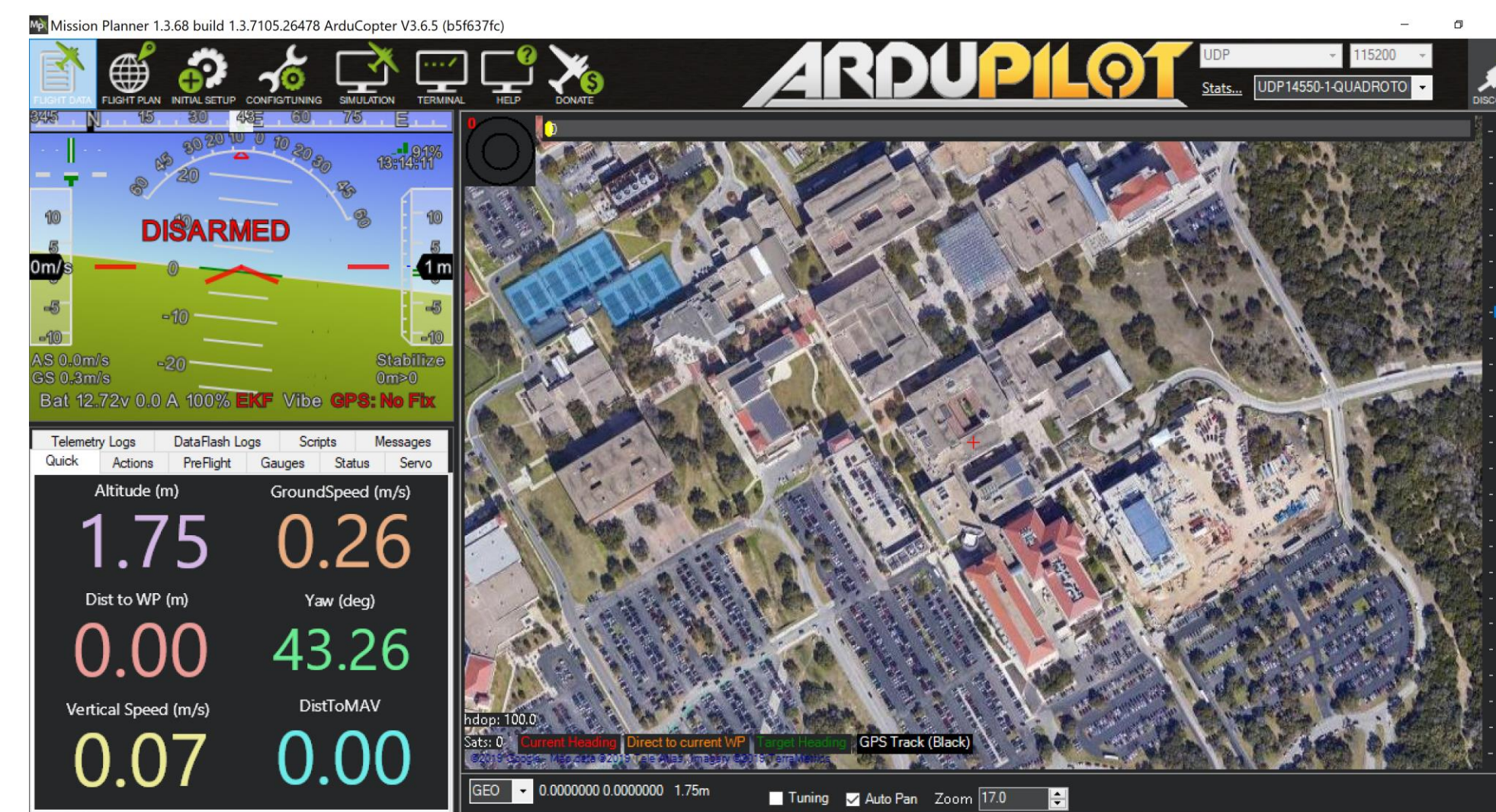
The achievement of going from no experience in drones to having my custom drone flying in two months of research.

HERBS

I had several setbacks, The biggest being electronic speed controllers breaking. I had to redo all my soldering and wiring. This allowed me to improve my original design and reduce weight.

LEARNING OUTCOMES

Project Management
I was the sole person managing this project. I oversaw the entire project from idea conception, to its manifestation in an actual flying drone. I encountered many setbacks along the way. The adaptation and overcoming of these obstacles made me and my drone better.



IMPACT

The results from my research have already begun making an impact in the drone community. As the Navio 2 board that I used has very little documentation or good examples online, I have had the opportunity to help others who have the same questions I had. When I posted a video of my first successful test flight I had, I started receiving questions in the comments, which I have been able to answer from the experience I gained through my research.

ADVICE

Research twice before trying. When dealing with batteries and things spinning fast it is better to get more than one opinion before plugging things in.