



JORDAN WELCH

SENTINEL ROBOTIC SOLUTIONS

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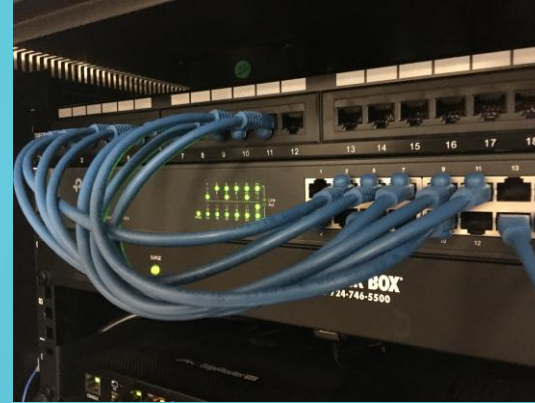
- SRS is a small company that creates and sells unmanned systems, with a focus on unmanned aerial vehicles
- Goal is to find solutions to problems that are both cost effective and completely mechanical
- SRS is a private company that is located just outside of the NASA base at Wallops
- This location allows for SRS to run contracts with NASA and operate systems on base, in addition to their other commercial contracts
- SRS has less than ten employees, keeping the numbers small to be able to work better as a team
- Four interns this summer, each with different jobs and responsibilities



MY INTERNSHIP

- My internship job was essentially to be the company's IT, which my supervisor, Chase Riley, normally functioned as, so that Chase could spend his time building and helping to test UAVs
- I worked for 100 hours this summer, with four main projects, and other smaller day to day tasks, such as reorganizing the workshop when new equipment came in, and calling and meeting with the printer company's repairman to fix the broken printer in the office

MY MAIN RESPONSIBILITIES



REDESIGNING PHONE SYSTEM

- My first task was to improve the company's phone system
- The old system was outdated, ineffective, and wasn't meeting needs
- My redesign of the system now better fits the needs of a small company, focusing on human interaction and connectivity

MAPPING ETHERNET CONNECTIONS

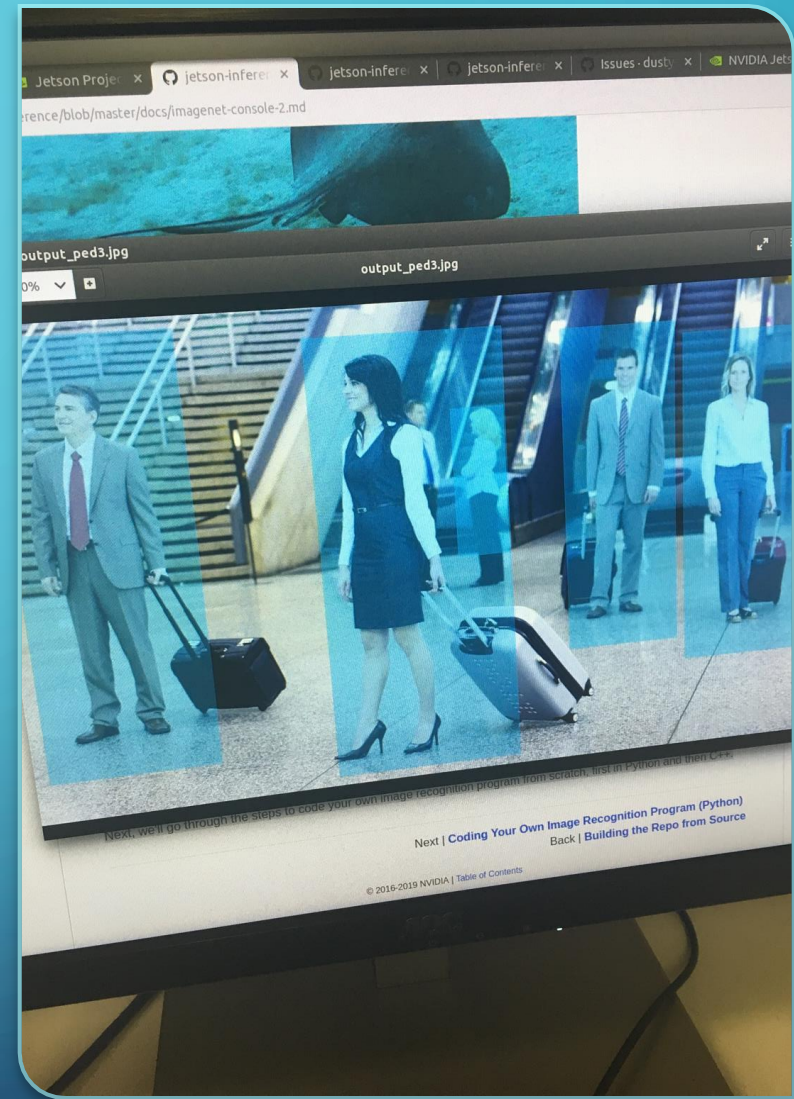
- The initial plan was for me to install the company's new internal server, but the hardware never came
- In preparation for the new server, I used an ethernet tester to map out which ethernet port of the current network went to which room

UPGRADING A COMPUTER

- The company had a computer used during meetings that wasn't functioning properly, due to having no memory space
- I disassembled the computer researched a new SSD to buy, and then after it arrived, replaced the old one

JETSON NANO

- When I wasn't working on one of my other projects, I researched and experimented with artificial intelligence with the Jetson Nano
- I unfortunately didn't have time to perform any recognition training of my own, but I discovered how you can use the Jetson to recognize objects both in a picture file and in a live camera
- The projects I worked with were determining what an object was, such as a pen, and determining where certain objects were, such as people
- This research will hopefully allow the unmanned systems at SRS to begin using recognition technology for both objects and faces



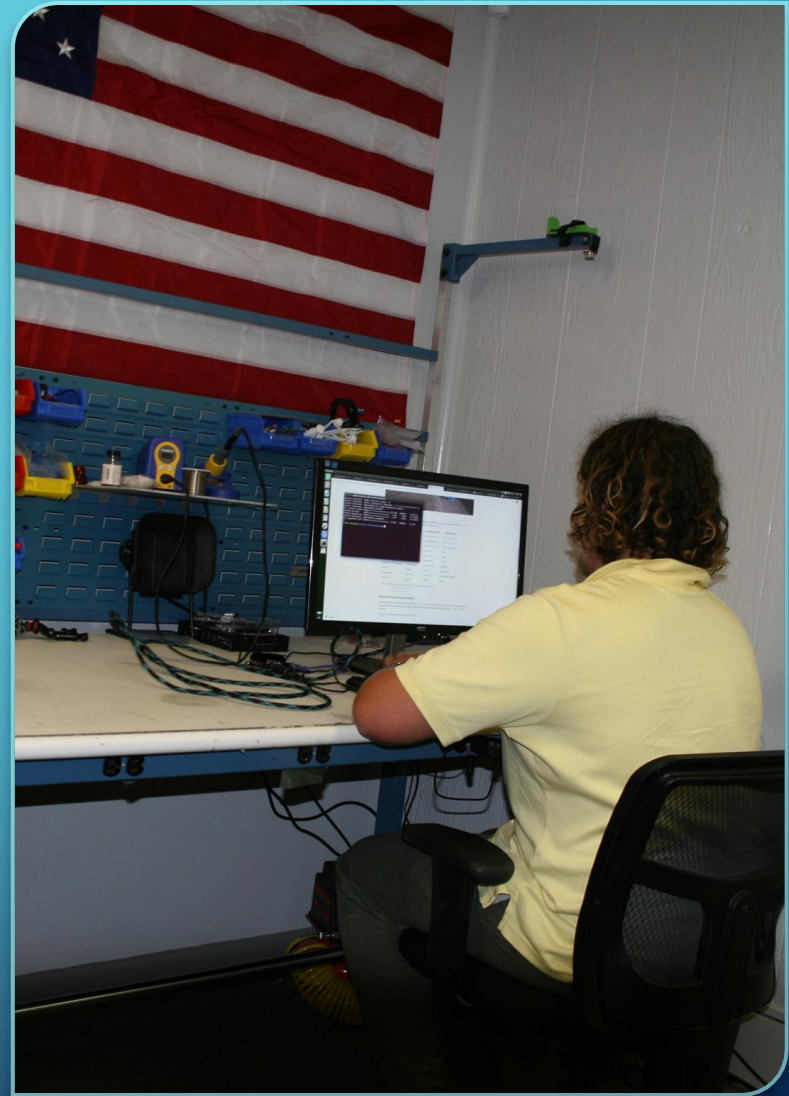
CHALLENGES

- Being my first time working in an office setting, it took some time to get used to how that environment works, such as interacting with fellow employees who don't do the same job as me, or being left with a project and having to figure it out on my own
- I felt uncomfortable at first when calling people or running errands as a representative of SRS, but became more comfortable with it as the internship went on
- I have never experienced artificial intelligence before, so while it was an exciting experience, I struggled with knowing what to do



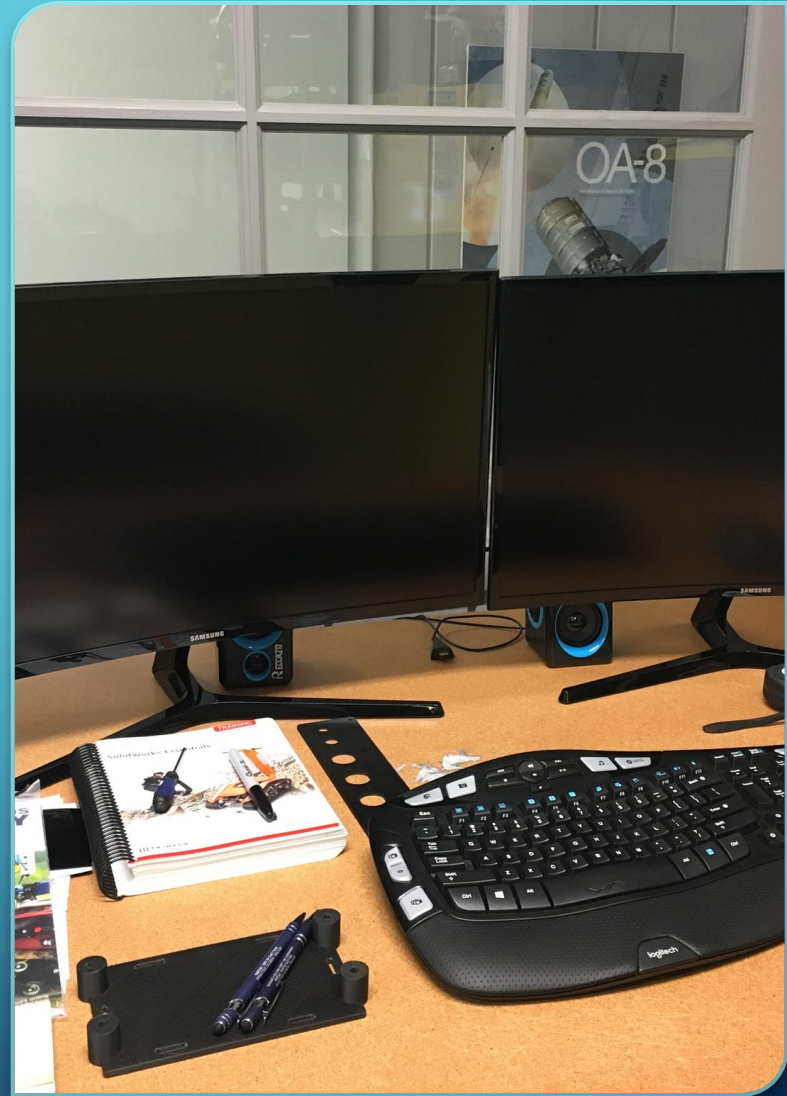
CLASSROOM INFLUENCE

- My classroom experience helped me throughout my internship, because while the AI was new to me, I did understand how code and commands worked, so I was able to pick up the skills necessary quickly
- Additionally, my classes have allowed me to become comfortable with Linux, which is important in real world coding scenarios, and was essential in working with the Jetson Nano



WHAT I LEARNED

- My internship taught me what it means to be working in an IT position, and what to expect if I continue in that path
- The experience also allowed me to learn about artificial intelligence in a practical way, and how recognition software can be used in different ways
- I learned how to function in an office space, and what it's like to be part of such a small company, where everything you do affects said company directly



GOING FORWARD

- This internship showed what it is like to work in IT, and allowed me to realize I probably don't want to do it professionally, as it doesn't directly interest me, as other areas of the field do
- So moving forward from this point, I will be looking into internships and jobs that aren't based around IT, and are more based around programming, which is where my passion for computer science lies
- While I don't plan to return to SRS or a similar position in the long term, I plan to continue learning about the artificial intelligence and object recognition

MY TAKEAWAY

- This internship was an amazing experience for me, allowing me to experience an office job for the first time, to see one of the branches my major can lead me down, and to learn about a basis of artificial intelligence
- With the knowledge I gained from this experience, I feel much more prepared for both the rest of my major and the world beyond college