

CSIRO - MARSFIELD

MY TIME AT CSIRO

By Jake Sanday






Who Am I?

My name is Jake Sanday

I am a 16-year-old student attending Central Coast Sports College based in Kariong. My passions and hobbies include: Sports, Space, Gym and Games. Within our school curriculum we are committed to spend at least one day a week on our "LTI" (Learning through internships). Why I chose CSIRO. I had heard about CSIRO through my uncle as he is a scientist, and I thought it would be a wonderful experience for me.



BIG PICTURE PROGRAM AT CCSC

The Big Picture Curriculum is designed to enable children to become well-rounded learners by including the following elements: Learning outside the classroom. Promoting positive mental health and well-being. Developing a Growth Mindset. Financial Literacy.



Learning Through Internships

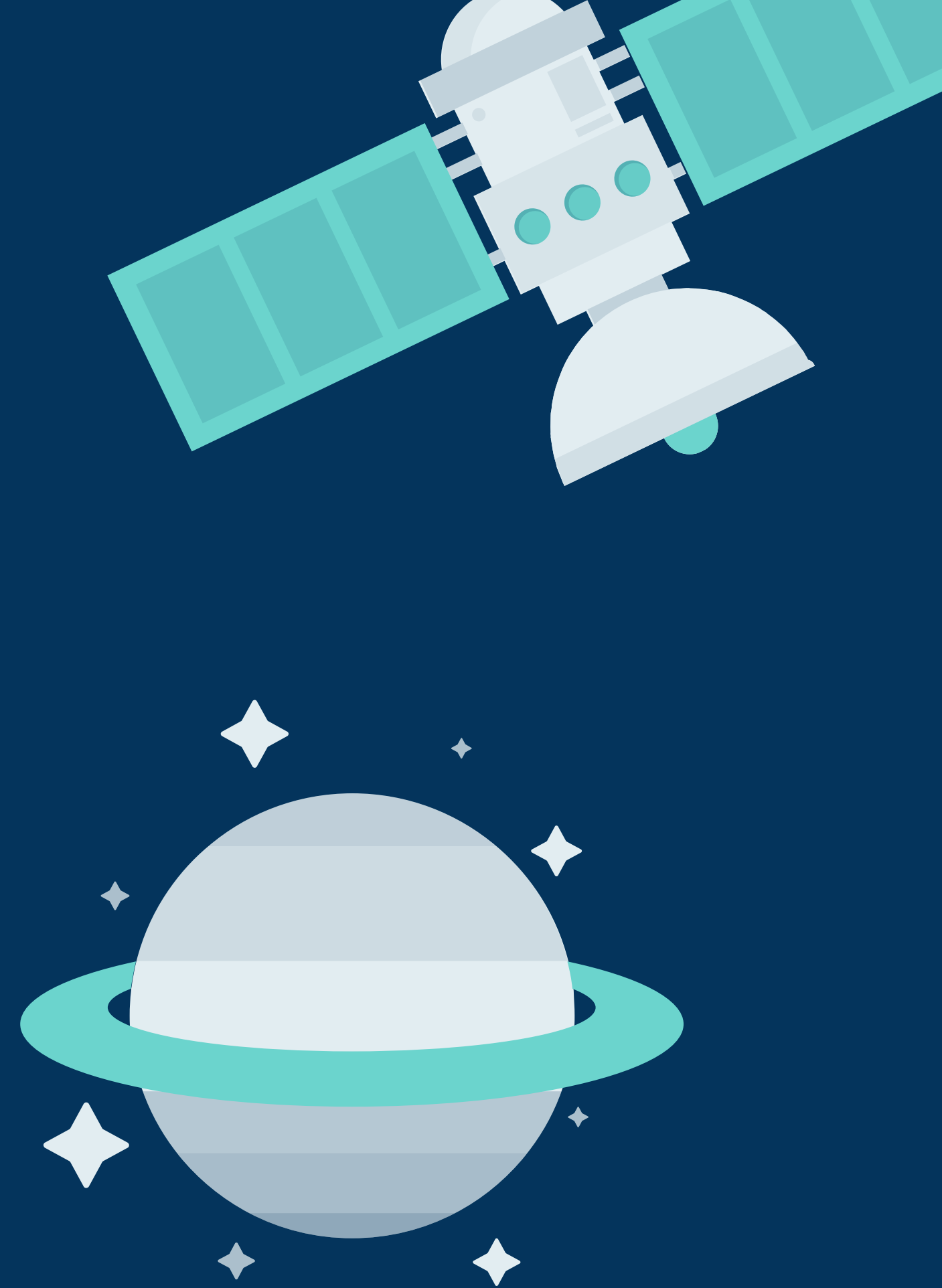
(LTI)

Internships help students master professional soft skills such as communication, punctuality and time management. These are skills that are key for success at both jobs and college, they are highly sought after by companies. Many employers complain that there are few candidates with excellent soft skills.



Prior Expectations

Prior to starting at CSIRO, I thought my time would consist of looking at heaps of photos. My interest within Astronomy was based purely off fascination of greater space, especially black holes. My interest has expanded much since then.





What I Hoped To Achieve

(During my term at CSIRO)

I hoped to achieve a greater understanding of careers and pathways through astronomy. I wanted to see what it is like to be learning and studying about space and the unknown, and just how you can do that.

WHAT I LEARNT DURING MY TIME AT CSIRO



CSIRO

I enjoyed going for walks around the site and hearing many fascinating stories. I soon found out that CSIRO isn't just about astronomy, but there are so many different areas of science you can work in.



Fast Radio Bursts

I learnt that when you get a burst within space, since some colours have a higher intense frequency. Depending on what colour it is, it will either go slower or stay at the same speed.



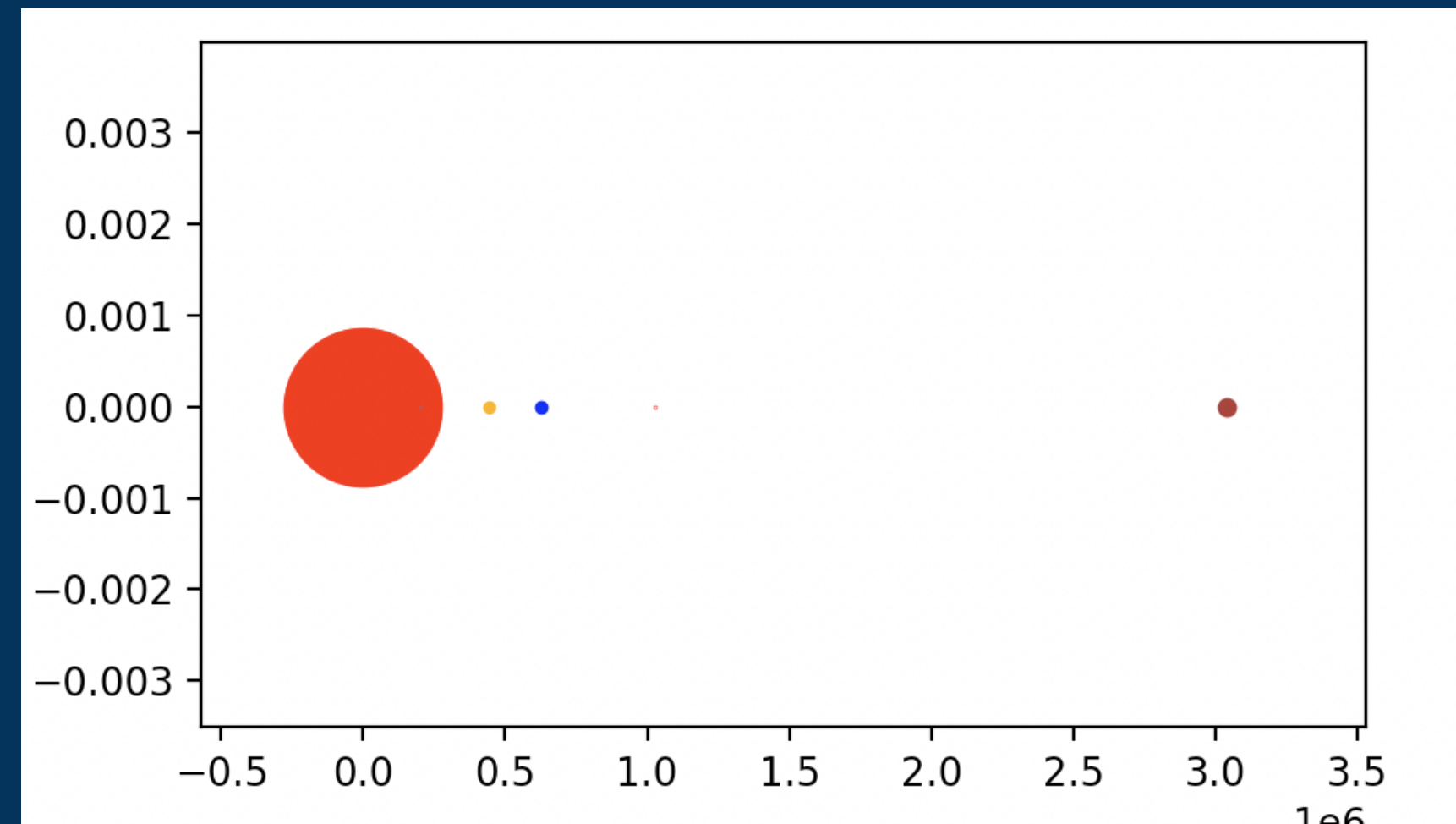
Coding

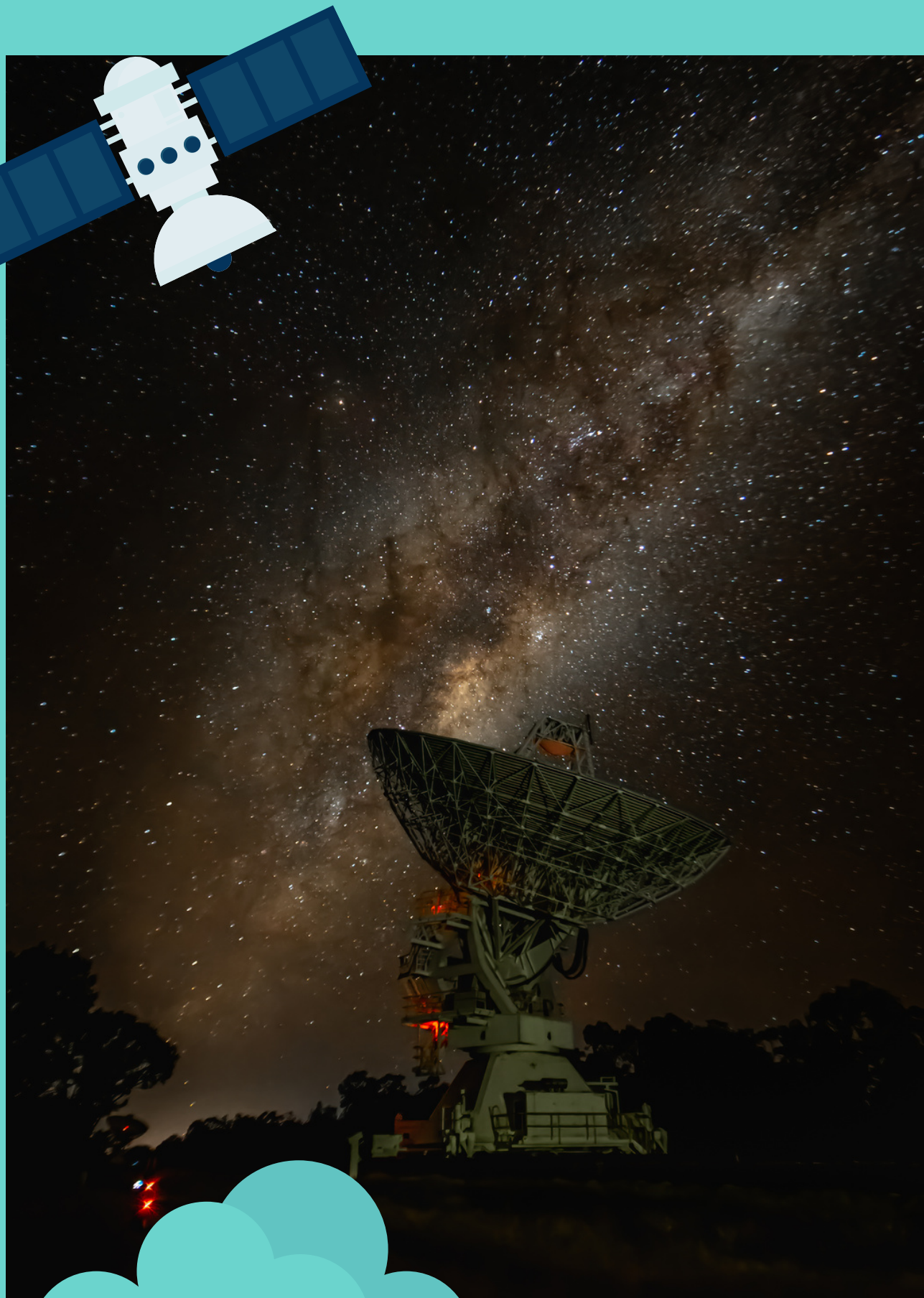
During my first day at CSIRO I learnt that coding plays a massive role within astronomy. To process the observations and create theoretical models of astrophysical events, astronomers use a number of data processing skills. To be honest, I haven't yet quite understood how to employ coding into astronomy, in fact, most of what Keith and Vivek said, went straight over my head. I hope to be able to learn more about this side of astronomy.

Coding

My solar System

```
program.py >
dist_to_mercury = 48.5 * 10**6 / mercury_dia_km
dist_to_venus = 108.3 * 10**6 / mercury_dia_km
dist_to_earth = 152.5 * 10**6 / mercury_dia_km
dist_to_mars = 250.4 * 10**6 / mercury_dia_km
dist_to_jupiter = 741.5 * 10**6 / mercury_dia_km
dist_to_saturn = 1463 * 10**6 / mercury_dia_km
dist_to_uranus = 2937 * 10**6 / mercury_dia_km
dist_to_neptune = 4473 * 10**6 / mercury_dia_km
```

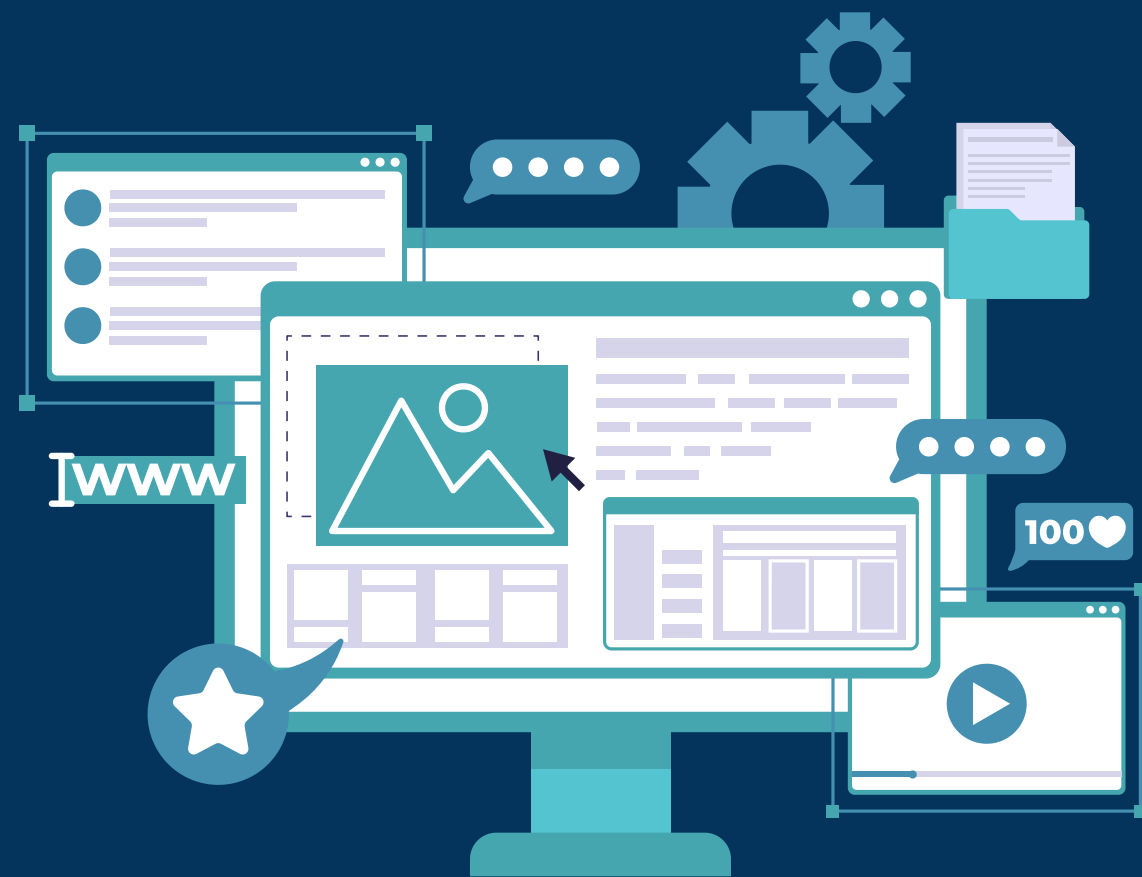




What have I achieved?

Throughout my time at CSIRO and working with Keith and Vivek, I have achieved a solid amount of knowledge about Astronomy and coding. I also learnt about the many career paths within astronomy that I may choose to go down in the future. After completing my Exhibition at school all the knowledge I got from CSIRO was outstanding and formed my best project I've produced in my time within the Big Picture Program. I would love to continue working and learning at CSIRO.

What didn't I enjoy?



To be honest, I enjoyed every minute of my time at CSIRO and have a very little percentage that I didn't quite like.

FOR EXAMPLE:

- **CODING**

I enjoyed learning about the different ways to code and decipher different observations, I just couldn't get my head around any of it.

- **TREES**

What did I enjoy?



- **ENVIRONMENT**

Everyone was so kind and willing to help me out whenever I needed, or, to answer any questions I had. Even when i was away from the premises, I was easily able to reach out for any questions that I needed answered. This made my time here and the space very enjoyable to be apart of and work in.

With my strong passion for mathematics mixed with my passion in astronomy, I loved learning about anything and everything that I did at CSIRO

A space-themed illustration on a dark blue background. In the top left is a large teal moon with smaller circles representing craters. To its right is a satellite with solar panels and a dish antenna. In the top right is a large planet with a prominent teal ring. In the bottom right is a teal rocket ship with a grey plume of exhaust. Scattered throughout the scene are several white and light blue stars of various sizes.

THANKYOU ALL

Thank you everyone for your time
and efforts.