WEBSITE URL:

https://callumw0906.wixsite.com/aussie-astronauts

Aussie Astronauts Art Gallery

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DALL-E 2

Our Story

We are just a couple of physics undergrads from Down Under. We created this website for the NASA International Space Apps Challenge as part of the universal event and the challenge called, "The Art in Our Worlds". Our goal was to create new artistic perspectives representing the human element of space exploration, using the latest digital technologies.

Two days before our competition began, OpenAI officially released DALL-E 2 to the public. We were so excited by this news, that we started to experiment with DALL-E 2 by using NASA and space-related keywords to generate images in a variety of artistic styles. We also tried the DALL-E 2 outpainting tool, using a selection of images gathered from the Perseverance Mars Rover Cameras (obtained through the NASA Mars Rover Photos API). We also started developing an image-to-music app to deliver the unique signatures of our AI-generated art in an audible form. Our results were... interesting.

We strongly believe that courage, individuality, and diversity are fundamental to achieving humanity's aspirations in space. Our gallery represents a celebration of these values, through an eclectic range of different art styles including abstract, impressionist, oil paintings, Indigenous Australian, digital, cartoonist, pixel, and many more. Each of our images is presented from a unique frame of reference, which we hope will explore new perspectives and help make our passions for science, art, and technology more accessible to a wider audience, in an inclusive and transparent manner. Enjoy!

P.S. Technically, Al-generated art is not produced in a vacuum, so we do not have ownership rights to the content on this page and you are free to download and share images at your leisure. To learn more about Al-generated art, check out our information page on <u>DALL-E 2</u>.

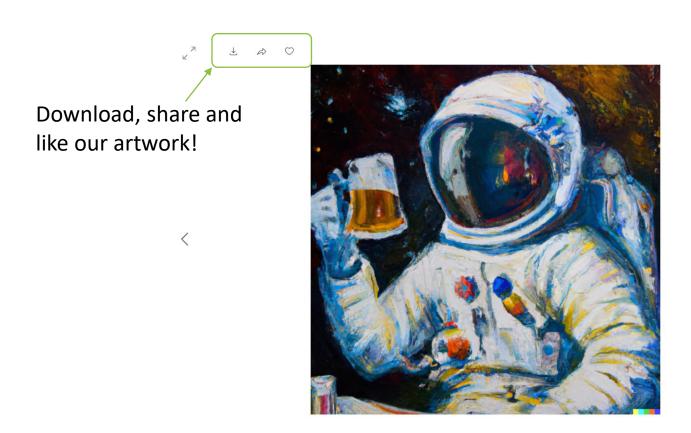
How To Use This Site

- Hover over any image to reveal the natural language description that we supplied to DALL-E 2 to generate the image.
- Click on any image to view the slideshow in full display size.
- Share your favourite artworks on social media! #spaceapps

"Australian astronauts surfing at the beach, depicted as an expressive oil painting."



Click an image to enable slideshow!



"An Australian astronaut having a beer in space, depicted as an expressive oil painting."

Music

We believe that art and science should be accessible to everyone. That's why we're developing an image-to-music app to communicate the unique signatures of our Al-generated art through sound.

While our app is still in early development, we have put together some 'synth-inspired' samples using our collection of uniquely generated images. Check out the album on <u>SoundCloud</u> and stay tuned for progress in this space!

Click to play music!



Infinite Chasm

"An astronaut stuck in an infinite time loop, depicted as an expressive oil painting."





"An expressive oil painting of the first astronaut landing on mars, depicted as an explosion of a nebula."



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We started our NASA Space Apps journey by searching through the NASA APIs for inspiration. We discovered the <u>NASA Mars Rover Photos API</u> - a gateway to life on Mars through images captured from Perseverance, the most recently deployed Mars Rover.

These are some of the images that inspired us.







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Turning Natural Language into Art: DALL-E 2

What is DALL-E 2?

According to OpenAI, DALL-E 2 is:

"A new Al system that can create realistic images and art from a description in natural language."

Simply put, DALL-E 2 allows us to create original, realistic images and art from a simple text description.

What is Outpainting?

The DALL-E 2 outpainting tool allowed us to add context to a an image by providing a text description. We were curious to see how DALL-E 2 would contextualise <u>real photographic images</u> taken from the Perseverance Rover on the surface of Mars. Check out our <u>gallery</u> to see some of our best results.

How does DALL-E 2 work?

DALL-E 2 is a machine learning model that has learned the relationship between images and the text used to describe them. Specifically, the model uses a process called "diffusion", to progressively learn the patterns of colours and features within an image and its associated text description. DALL-E 2 uses over 3.5 billion parameters, trained on text-image pairs from the Internet.

How did we use DALL-E 2?