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# NOTIFICATION / ALERT FOR LAW ENFORCEMENT

## RISK OF ARTIFICIAL INTELLIGENCE (AI) GENERATED IMAGES PORTRAYING YOUTH AND FIREARMS

The purpose of this document is to provide law enforcement, educational facilitators and facilities with the potential threats/challenges associated to the criminal/malicious use of Artificial Intelligence (AI) depicting youth and firearms.

With the rapid advent of utilizing AI for a myriad of tasks has proven to be a benefit for a number of legitimate purposes but, like anything else, it can also be used for nefarious purposes. We have already seen AI created images / videos, using the facial images of actual children within the creation of child pornography.

Another concern that we are having is the use of AI created images for the purpose of "Swatting" threats against educational institutes and other criminal purposes. Consider the below noted image and request to identify that was forwarded to me by Colton Easton of the *Safer Schools Together* team...That image required me to consider a number of characteristics unique to that make of firearm. Once I provided Colton Easton with my opinion, he informed me that it was an AI created image. To support my conclusions, I forwarded the image the image to two very experienced illicit firearms investigators, and they too were quite surprised to learn that it was an AI created image.

This image and the following images were created by a program called Midjourney. For a small fee per month, users can create AI generated images in less than 60 seconds. Midjourney can be accessed through the social media platform Discord.

Now consider one of the following images being sent to an educational facility / SLO that don't have the skill sets that we possess, and actions are taken that could place innocent individual(s) at risk.
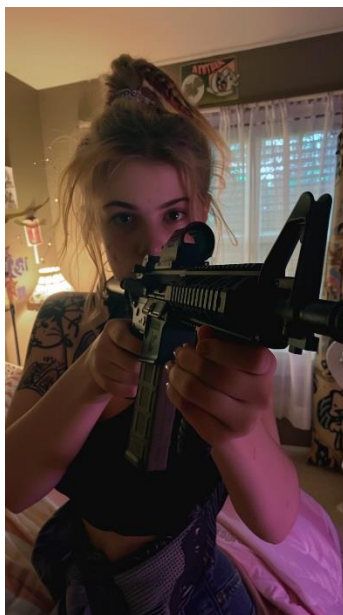
As someone actively involved globally in training on the recognition, possession, and use of illicit firearms and related components fabricated from 3D polymer printing, CNC milling, 80% kits, or converted airsoft and pellet guns, the challenge posed by AI-generated images is significant. When examining any image and/or video depicting firearm(s), the caveat that is included with all opinions is that it is an actual firearm until proven otherwise by a competent and trained individual/examiner. I have been provided with images/videos that clearly depicted replica/airsoft/pellet guns, but they clearly showed that they were incapable of discharging ammunition capable of causing grievous or bodily harm associated to actual ammunition (consisting of bullet/projectile(s), casing, propellant). Examples of this include barrel blockers, airsoft/pellet magazines, clear view of chamber, etc).

## Verifying Image Uniqueness

When safety and threat assessment teams engage in Digital Threat Assessment® training provided by Safer Schools Together, participants learn how to conduct a reverse image search. This technique allows users to submit an image to Google, Tineye, or any other search engine to verify if it is a Stock or Unique image. 'Stock' meaning the image has been likely been downloaded from the internet and reshared, thus lowering the initial level of risk. 'Unique' suggests a higher likelihood of that image belonging to the Subject of Concern (SOC). When a SOC makes a threat and their social media account shows images of access to the means, teams can use the reverse image search to quickly determine whether the SOC truly has access to the means or not. If the image is unique, this allows teams to implement immediate risk-reducing interventions and for law enforcement to remove access to the means. To inquire about Digital Threat Assessment® training or the many other training and services that Safer Schools Together provides, please visit their website.

The challenge with AI-generated images is that each one is brand new. A reverse image search only indicates if an image has appeared in publicly available sources, not whether it was AI-generated. Thus, every AI generated image submitted through a reverse image search will appear as unique. However, this is may not always be the case where the images have been featured in news articles or publicly available pages.

*Figure 1: The initial photo showing as a unique image through a Tineye search.*



## 0 matches

TinEye searched over 67.4 billion images but didn't find any matches for your search image. That's probably because we have yet to crawl any pages where this image appears. TinEye is always crawling, so try your search again soon. See our **FAQ** for other reasons we may not have found your image.

Using TinEye is private. **We do not save your search images.**

*Figure 2: An AI-generated image of an explosion at the Pentagon that went viral as a hoax.*



## 146 results

Searched over **67.4 billion images** in 0.8 seconds for: **image.png**

# Creating AI Generated Images

While there are many different AI image generators, this paper will only focus on Midjourney, the software used to create all the images featured here. Midjourney is a paid service that can be accessed through the social media platform Discord, which is available on desktop or mobile devices. A user can submit an image 'prompt', telling the AI software what they would like the image to be. The image generator will then create 4 image previews, allowing the user to create any variations of those 4, or upscale them to a higher resolution.

*Figure 3: Midjourney generating four previews with the prompt 'a German shepherd chasing a tennis ball.' The numbers correspond to the photos, while 'U' and 'V' mean 'Upscale' and 'Variation.'*
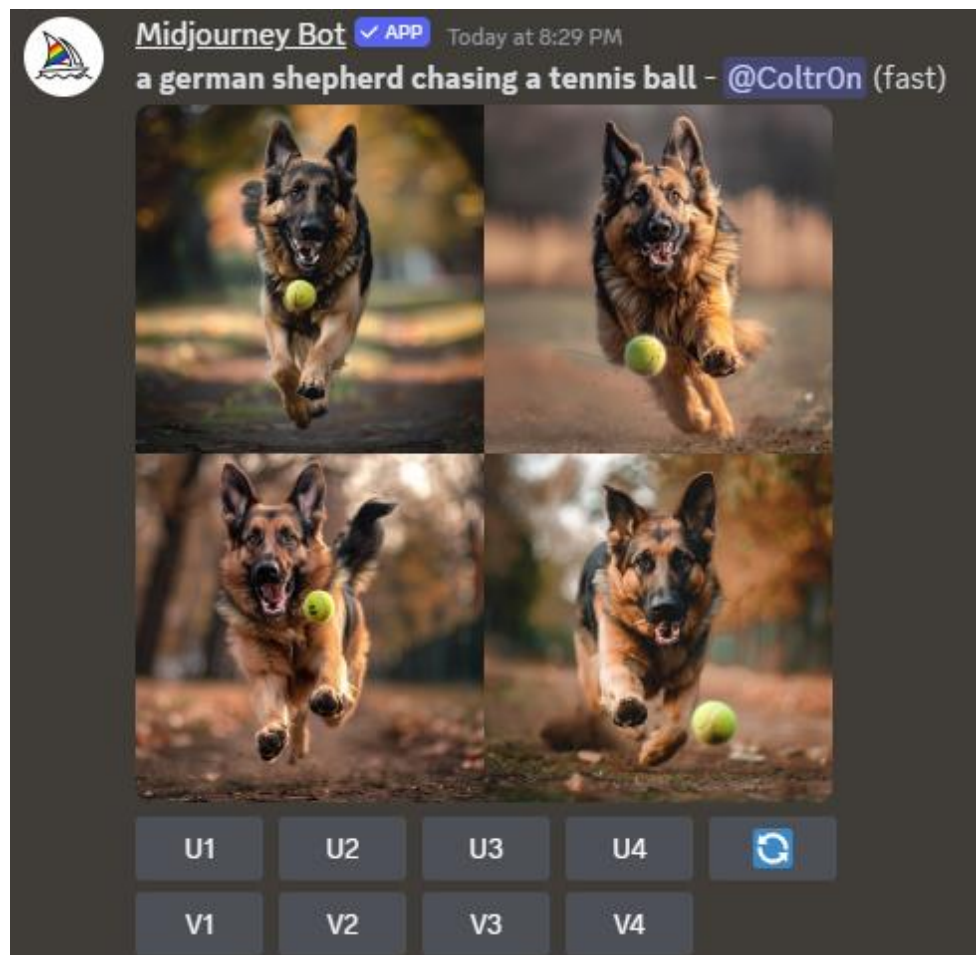
# Creating Realistic Images with Parameters.

Midjourney has a very detailed guide on how to create different types of images. The link can be found by clicking here. Parameters act like detailed instructions for the software to follow. For example, users can request that the AI image create an artwork in the style of a famous artist or simulate the focal length of a camera lens.

*Figure 4: An image prompt asking for California poppies. The image must be in 2:3 aspect ratio, and the generated images should not contain the sky.*
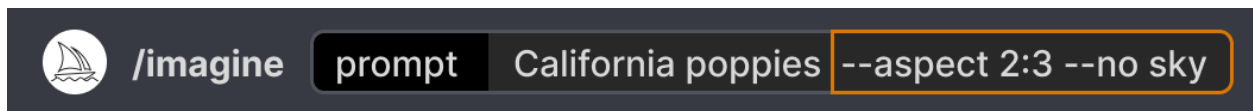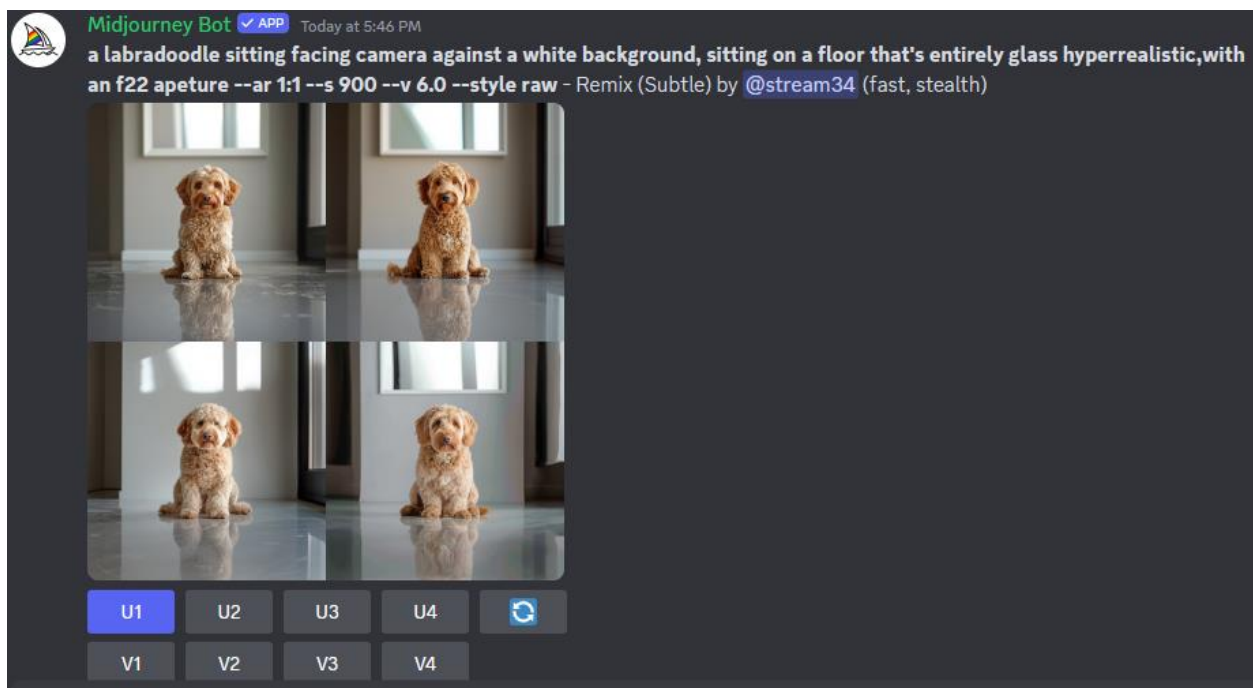


*Figure 5: An image generated using specific parameters and requirements.*

Now that basic image prompting is understood, we can now look at the image prompt used to create all the worrisome images seen at the start of this paper. The prompt asked Midjourney to create "A selfie of a teenager holding a pistol posted to snapchat", with the parameters being set to be less aesthetically pleasing (--style raw), a vertical photo (--ar 9:16), a less stylized photo (--s 10), and to generate the image in the model's newest version (--v 6).
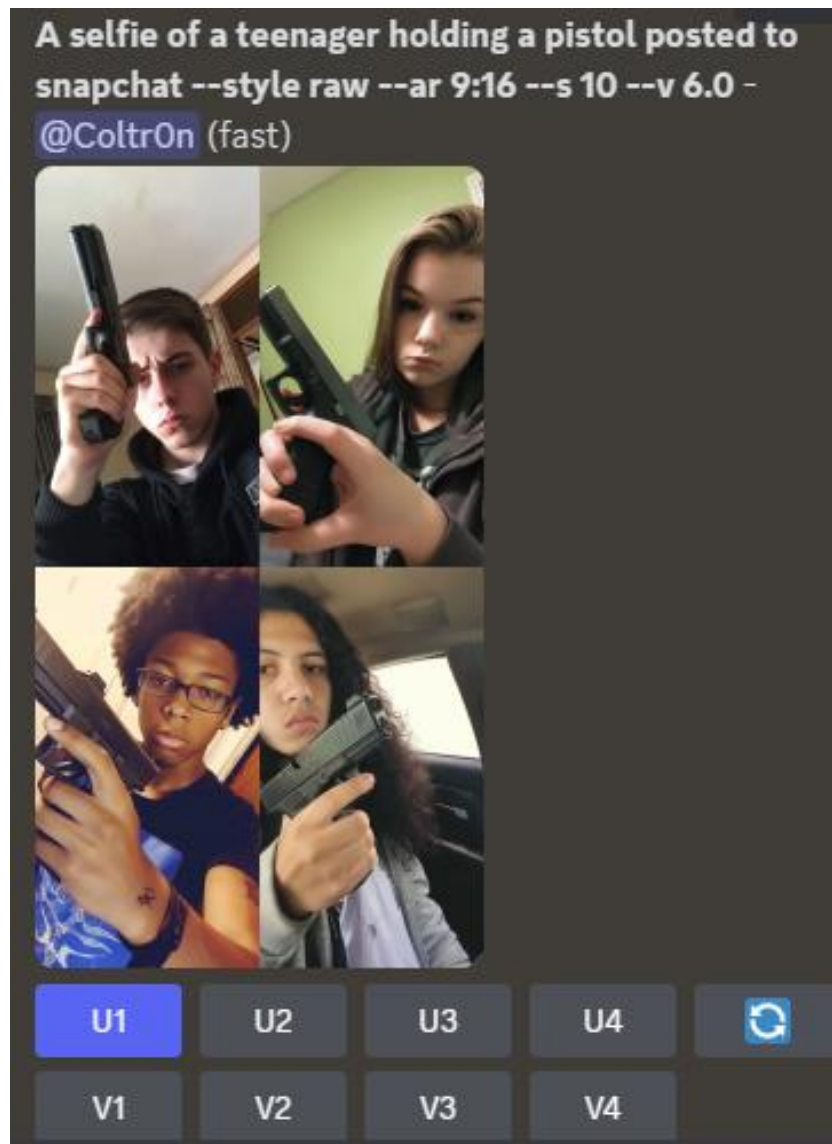


After the previews are generated, we can choose which one to upscale or make variations of. The goal of the preview is to pick the image that looks the most realistic. From there, users can save the image, and upload it to any social media platform they wish.

# How to Spot AI Generated Images.

While Midjourney and other AI-generated images platforms are near indistinguishable from normal images, they are not perfect. Let's explore some important considerations that teams must think about when examining an image that could be AI-generated.

## Examining the Details

Teams must look beyond the immediate content of the photo and focus on the details in the background. Below are some examples of our original threat-related images.





*Figure 6: Smoke detector and lights are not typically consistent with a bedroom setting.*



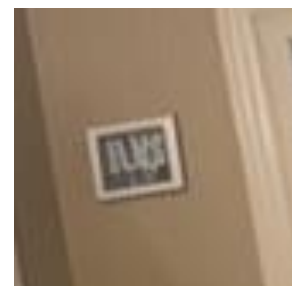*Figure 7: Arm hair appears to be too detailed.*

*Figure 6: Odometer and dash are not consistent with any car model*



*Figure 7: The bending and Warping of the bedframe appears non-sensical.*

*Figure 8: Artwork appears to be gibberish.*

While this paper is an alert about AI-generated images as of May 2024, it is important to remember that AI-generated images will continue to get better and better over time. Currently, no software can reliably determine if an image is AI-generated.

*Figure 9: An AI generated image with the same prompt made one year apart.*



If your team is dealing with a threat-related image that appears to be generated with AI, please contact the Safer Schools Together team at info@saferschoolstogether.com for any assistance.

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