

神奇的高更AI畫

當我遇上AI人工智慧=天才藝術家

 **NVIDIA** GauGAN Beta 應用



亞洲大學室內設計學系
Department of Interior Design

施勝誠
2019/08



媒體報導

NVIDIA AI 塗鴉成畫 GauGAN 獲專業影像創作者青睞用於作畫輔助，開放大眾使用後一個月內產生五十萬作品

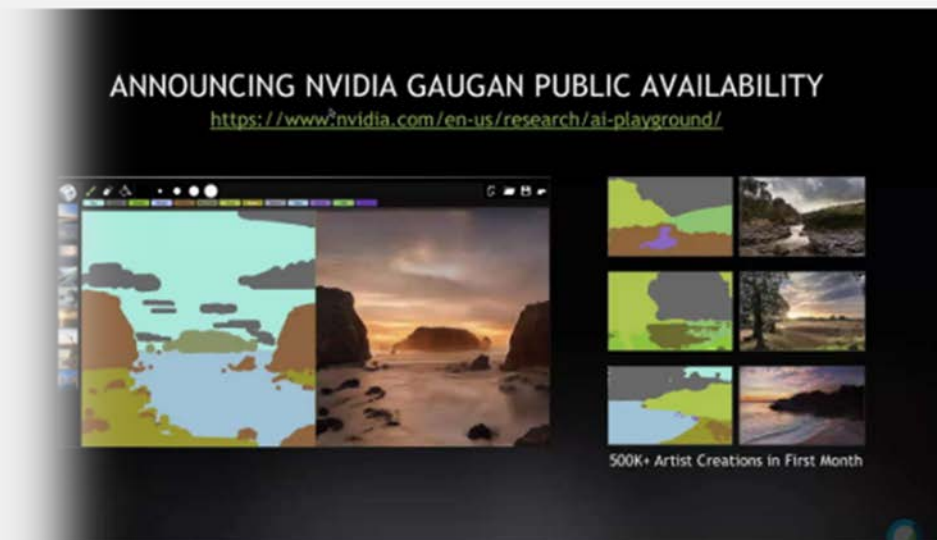
雲端服務 / NVIDIA AI 塗鴉成畫 GauGAN 獲專業影像創作者青睞用於作畫輔助，開放大眾使用後一個月內產生五十萬作品

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<https://www.cool3c.com/article/1465>



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甚麼都懂一點、甚麼都不精

文章共10682篇 f

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NVIDIA 的研究團隊在 2019 年的 GTC 推出以梵谷為名的 GauGAN AI 塗鴉做畫技術，這項技術通過對抗生成網路的方式進行訓練，使用者只要用塗鴉各種場景的畫筆簡單抹上顏色，



專業藝術創作者利用 GauGAN 完成背景的基本構圖，而後再行加工完成作品

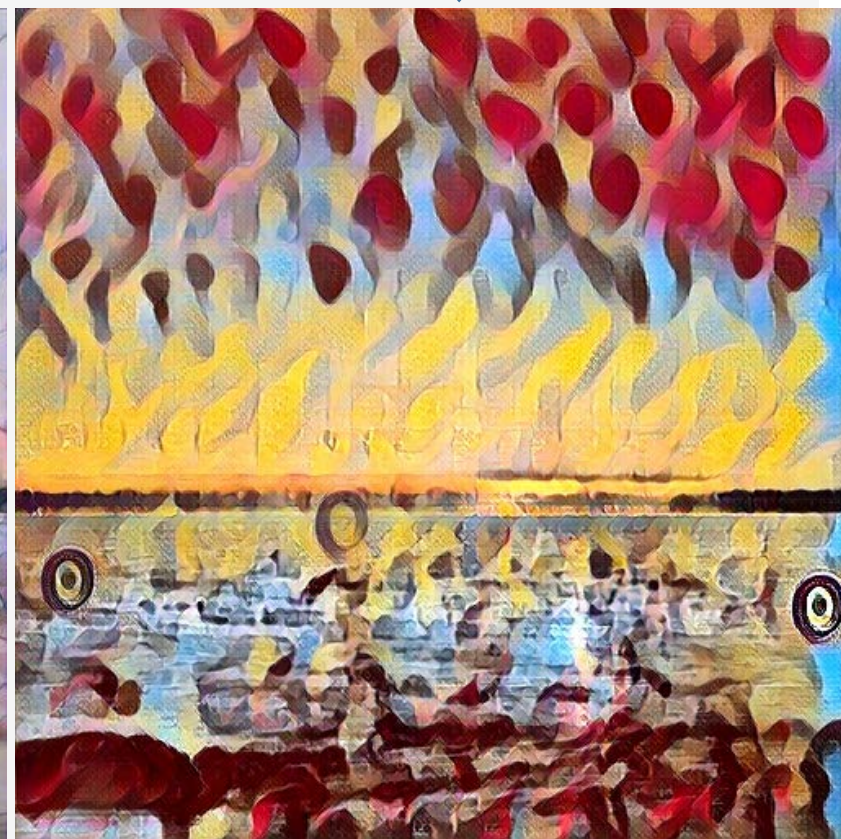
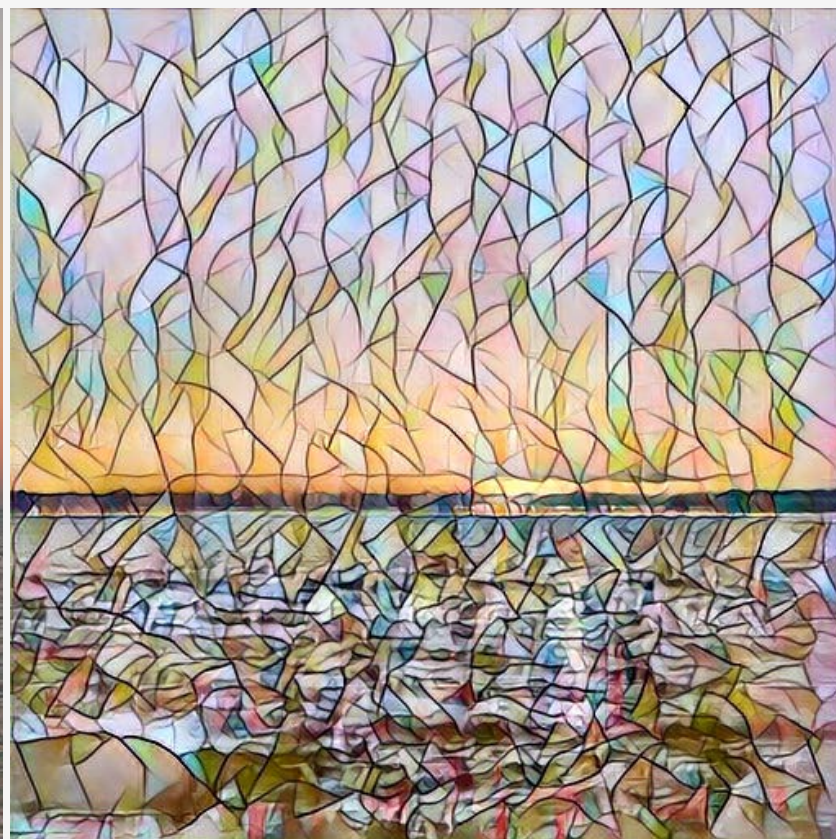
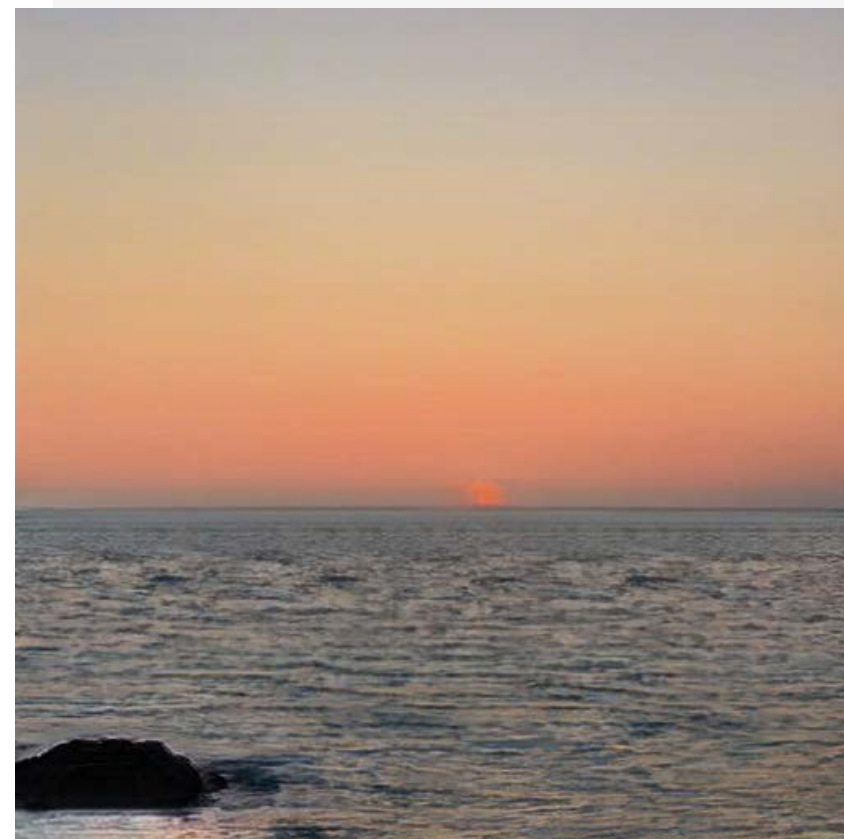
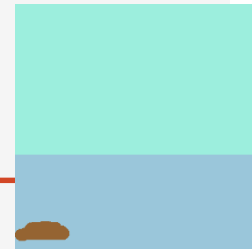
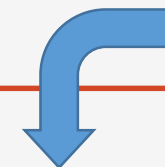
“GauGAN is a game-changer for me. I can generate a multitude of potential lighting environments and background scene scenarios for my art in minutes. Real-time updates to my environments with a few brush strokes is mind-bending.”

Colie Wertz, Senior Concept Artist
Star Wars, Transformers, Iron Man



GauGAN高更AI畫直接成果沒有任何後製範例

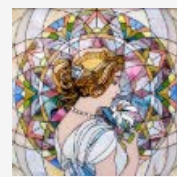
色塊畫布



實景風格



畫作風格



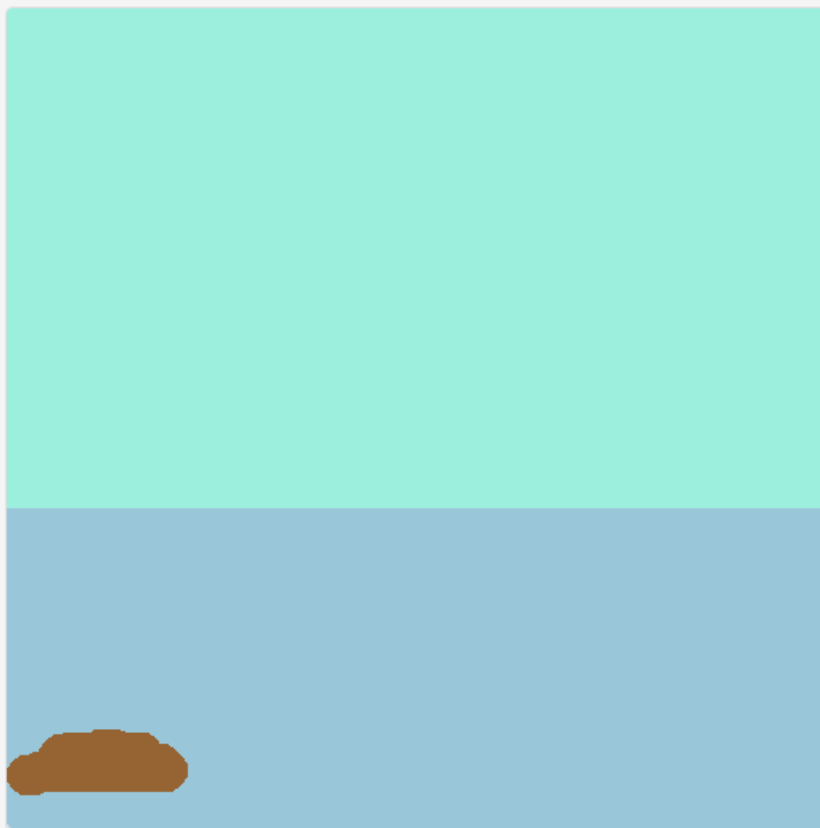
畫作風格



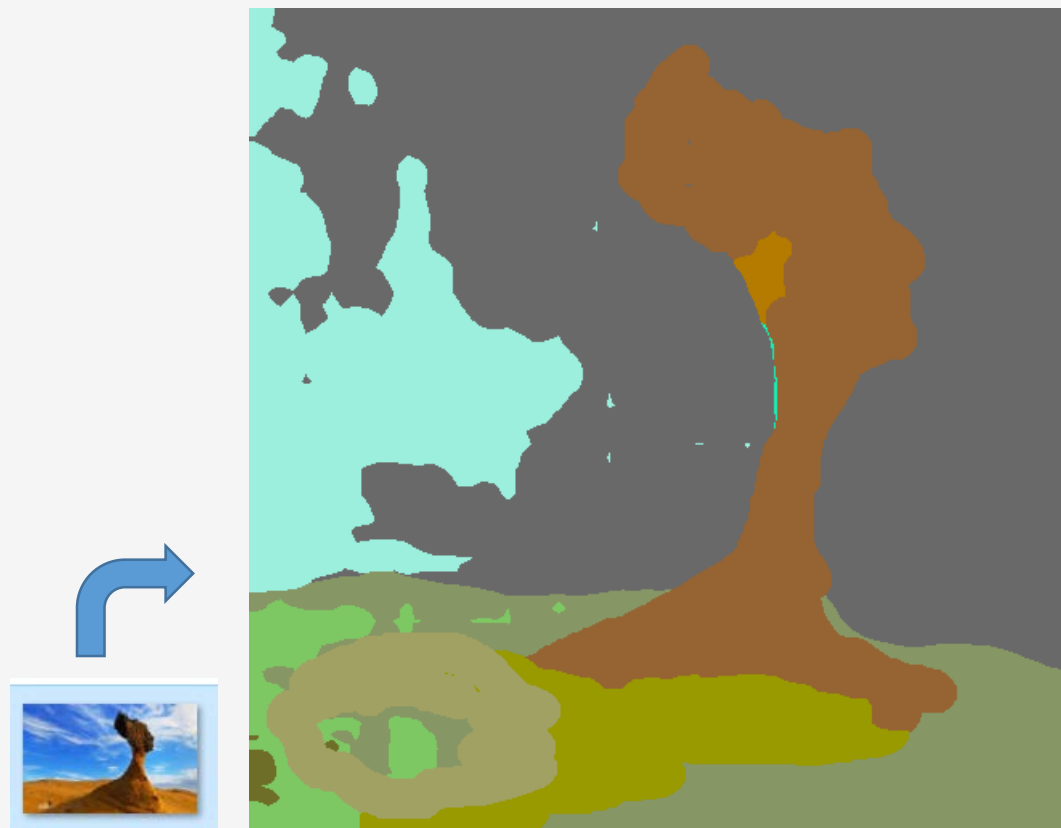
如何使用 GauGAN 高更AI畫設計工具

操作模式：

1 信手塗鴉



2 利用既有影像決定色塊



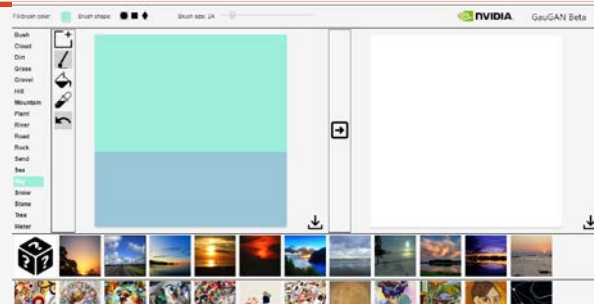
操作模式

① 信手塗鴉

信手塗鴉使用 GauGAN 高更AI畫設計工具

操作方式：

1 使用「瀏覽器」開啟網頁 <http://nvidia-research-mingyuliu.com/gaugan>

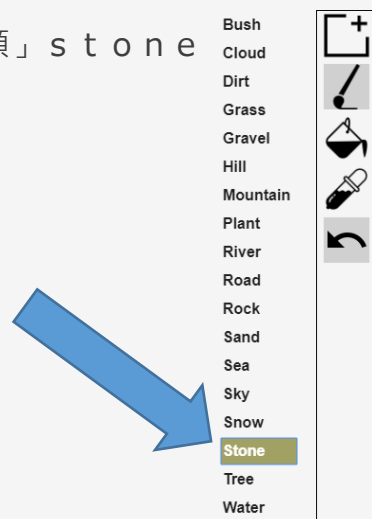


起始畫面

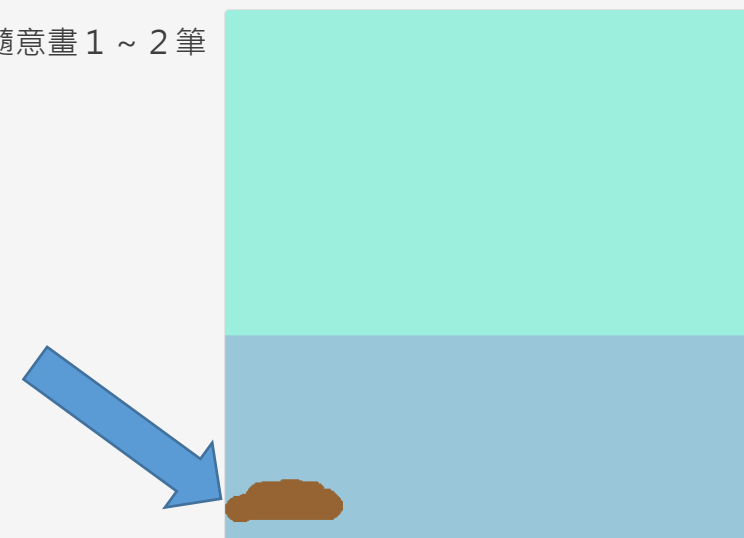
2 在螢幕下方打勾，同意網頁約定。



3 在螢幕左方選「石頭」stone



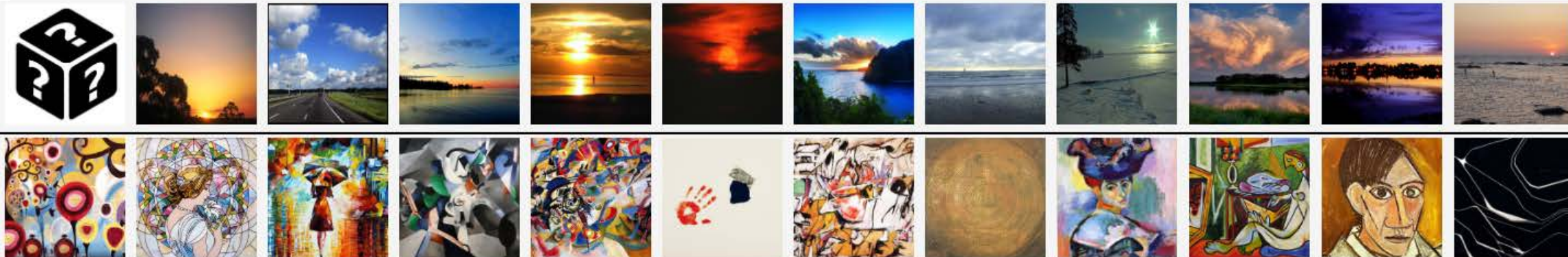
4 在色塊畫布中隨意畫 1 ~ 2 筆



信手塗鴉使用 GauGAN 高更AI畫設計工具 (I I)

操作方式：

5 滑鼠雙擊選擇風格 (上排屬於照片實景風格，下排屬於畫作風格，左上角第一格是系統隨機挑一個風格)



6 成果

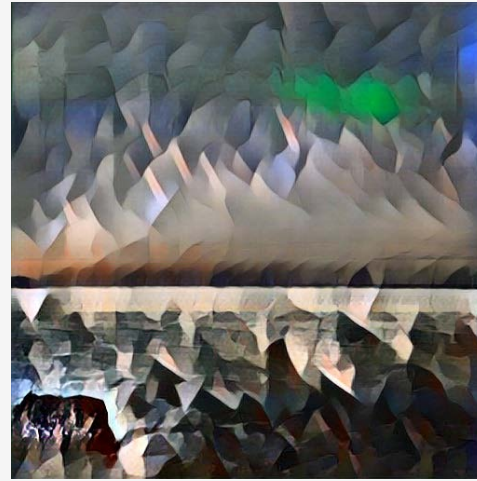
隨機風格



實景風格



畫作風格



填色 Fill/brush color: 筆刷形狀 Brush shape: 筆刷大小 Brush size: 24 筆刷大小滑桿工具

介面介紹

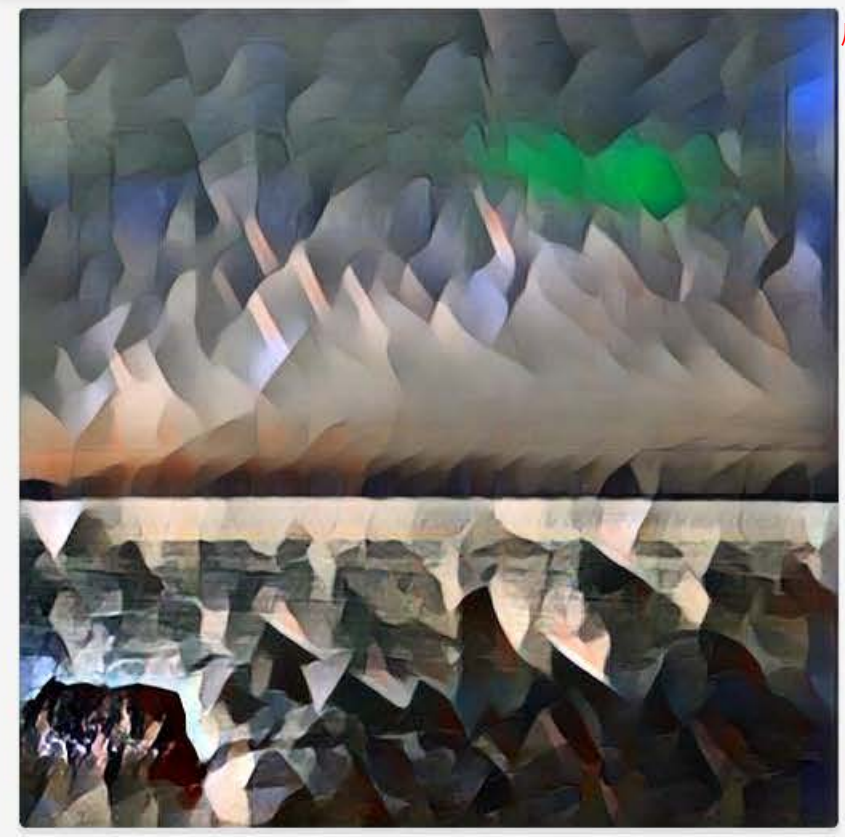
- Bush 筆刷
- Cloud 雲彩
- Dirt 土壤
- Grass 草地
- Gravel 礫石
- Hill 丘陵
- Mountain 高山
- Plant 平地
- River 河流
- Road 道路
- Rock 岩石
- Sand 砂石
- Sea 海洋
- Sky 天空
- Snow 雪地
- Stone 石頭
- Tree 樹木
- Water 水體

色塊畫布

矩形選取 畫筆 填色 取色 上一步

執行風格運算

儲存色塊畫布為png圖檔



儲存成果畫布為jpg圖檔



← 實景風格

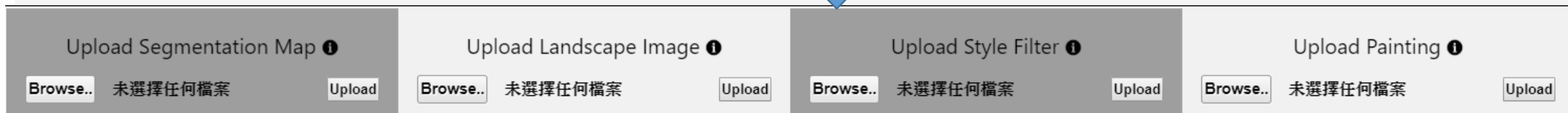


← 畫作風格

風格限制創意?

有自己的風格我驕傲

上傳自訂的「實景」風格影像 Upload Style Filter



- 1 在“Upload Style Filter”區域內，滑鼠點擊“Browse”
- 2 出現檔案管理員後選擇你的影像檔
- 3 在“Upload Style Filter”區域內，滑鼠點擊“Upload”上傳
- 4 你的影像會出現在“實景風格”區最右邊的一張
- 5 最後，雙擊“實景風格”區最右邊的一張影像，即可以你的影像獲得成果



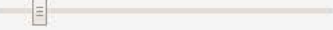
自訂的「實景」風格影像 Upload Style Filter操作步驟1~5


The image illustrates the process of uploading a style filter in five steps:

- Step 1:** Clicking the "Browse..." button in the "Upload Style Filter" section of the software interface.
- Step 2:** Opening a file explorer window to navigate to the local "Pictures" folder.
- Step 3:** Selecting the image file "img_north01" in the file explorer.
- Step 4:** Clicking the "開啟(O)" (Open) button in the file explorer to load the selected image.
- Step 5:** The selected image "img_north01.jpg" is now visible in the "Upload Style Filter" section of the software interface.

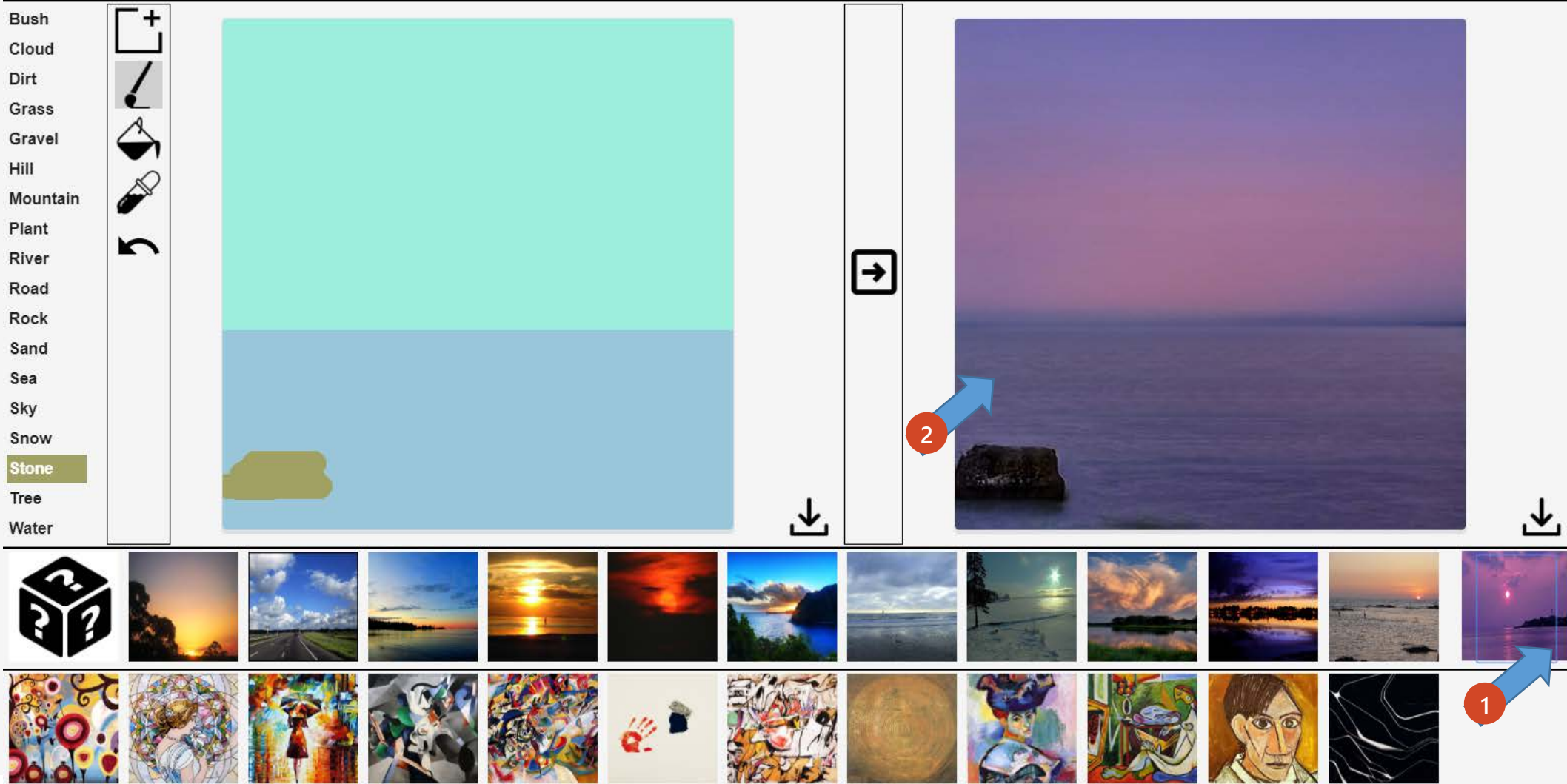
The software interface also shows other sections: "Upload Segmentation Map", "Upload Landscape Image", and "Upload Painting". The "Upload Style Filter" section is highlighted with a blue arrow pointing to the "img_north01.jpg" file.

自訂的「實景」風格影像 Upload Style Filter 高更設計成果

Fill/brush color:  Brush shape:  Brush size: 24 

 GauGAN Beta

- Bush
- Cloud
- Dirt
- Grass
- Gravel
- Hill
- Mountain
- Plant
- River
- Road
- Rock
- Sand
- Sea
- Sky
- Snow
- Stone**
- Tree
- Water



The interface shows a brush tool on the left with a list of categories. The main canvas displays a simple scene with a cyan sky and blue water, and a small green brush stroke on the water. A red circle with the number '2' points to a rock in the resulting image. Below the canvas is a grid of style filter thumbnails. A red circle with the number '1' points to a thumbnail showing a sunset over water in a Van Gogh style.

上傳自訂的「畫作」風格影像 Upload Painting 操作步驟1~5



Upload Segmentation Map ⓘ Browse.. 未選擇任何檔案 Upload	Upload Landscape Image ⓘ Browse.. 未選擇任何檔案 Upload	Upload Style Filter ⓘ Browse.. 未選擇任何檔案 Upload	Upload Painting ⓘ Browse.. 未選擇任何檔案 Upload
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- 1 在“Upload Painting”區域內，滑鼠點擊“Browse”
- 2 出現檔案管理員後選擇你的影像檔
- 3 在“Upload Painting”區域內，滑鼠點擊“Upload”上傳
- 4 你的影像會出現在“畫作風格”區最右邊的一張
- 5 最後，雙擊“畫作風格”區最右邊的一張影像，即可以你的影像獲得成果

自訂的「畫作」風格影像 Upload Painting 操作步驟 1~5

The image illustrates the five-step process for uploading a painting to a custom image generation tool. The interface features a sidebar with terrain categories, a central canvas, and a bottom control panel with four upload buttons: 'Upload Segmentation Map', 'Upload Landscape Image', 'Upload Style Filter', and 'Upload Painting'. A file explorer window is open, showing a selection of images. Red circles with numbers 1 through 5 indicate the sequence of steps:

1. Clicking the 'Upload Painting' button in the bottom control panel.
2. Selecting an image in the file explorer window.
3. Clicking the 'Open' button in the file explorer window.
4. Clicking the 'Upload' button next to the 'Upload Painting' button in the bottom control panel.
5. Clicking the 'Upload' button next to the 'Upload Painting' button in the final state.

自訂的「畫作」風格影像 Upload Painting 高更設計成果

The screenshot displays the GauGAN Beta interface, which is used for generating images from text prompts. The interface is divided into several sections:

- Top Bar:** Includes the NVIDIA logo and the text "GauGAN Beta". It also shows settings for "Fill/brush color" (a green square), "Brush shape" (a circle, square, and diamond), and "Brush size: 24" with a slider.
- Left Panel:** A list of categories for painting: Bush, Cloud, Dirt, Grass, Gravel, Hill, Mountain, Plant, River, Road, Rock, Sand, Sea, Sky, Snow, Stone (highlighted in green), Tree, and Water. To the right of this list are icons for adding, erasing, and painting.
- Central Canvas:** A large area where a landscape scene is being painted. The scene consists of a light blue sky and a darker blue sea. A small green brushstroke is visible on the sea. A red circle with the number "2" and a blue arrow points to the right side of the canvas.
- Right Panel:** A vertical strip containing a right-pointing arrow icon. Below it is a large image of the final generated painting, which is a vibrant, abstract landscape with a mix of reds, oranges, yellows, and greens. A red circle with the number "1" and a blue arrow points to the bottom right corner of this image.
- Bottom Row:** A horizontal strip of small image thumbnails. The first thumbnail is a cube with question marks. The following thumbnails show various landscape and abstract images, including a sunset, a road, a lake, and a handprint.

操作模式

- 2 利用既有影像決定色塊

上傳一張自訂影像快速建立色塊 Upload Landscape Image



<p>Upload Segmentation Map ⓘ</p> <p><input type="button" value="Browse.."/> 未選擇任何檔案 <input type="button" value="Upload"/></p>	<p>Upload Landscape Image ⓘ</p> <p><input type="button" value="Browse.."/> 未選擇任何檔案 <input type="button" value="Upload"/></p>	<p>Upload Style Filter ⓘ</p> <p><input type="button" value="Browse.."/> 未選擇任何檔案 <input type="button" value="Upload"/></p>	<p>Upload Painting ⓘ</p> <p><input type="button" value="Browse.."/> 未選擇任何檔案 <input type="button" value="Upload"/></p>
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- 1 在“ Upload Landscape Image”區域內，滑鼠點擊“Browse”
- 2 出現檔案管理員後選擇你的影像檔
- 3 在“ Upload Landscape Image”區域內，滑鼠點擊“Upload”上傳
- 4 你的影像會出現在“色塊畫布”區，且已經轉成最佳色塊
- 5 最後，雙擊你喜歡的“風格”，即可以你的影像色塊與風格獲得成果





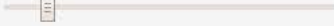
上傳一張自訂影像快速建立色塊 Upload Landscape Image 操作步驟 1~5


The image illustrates the process of uploading a landscape image to a software interface for AI image generation. The steps are numbered 1 through 5:

- 1**: Click the "Browse.." button under the "Upload Landscape Image" section.
- 2**: Select the image file "img_north02" in the file explorer window.
- 3**: Click the "Open" button in the file explorer window.
- 4**: Click the "Upload" button under the "Upload Landscape Image" section.
- 5**: The final segmented image is displayed on the right side of the interface, showing the landscape with color-coded regions.

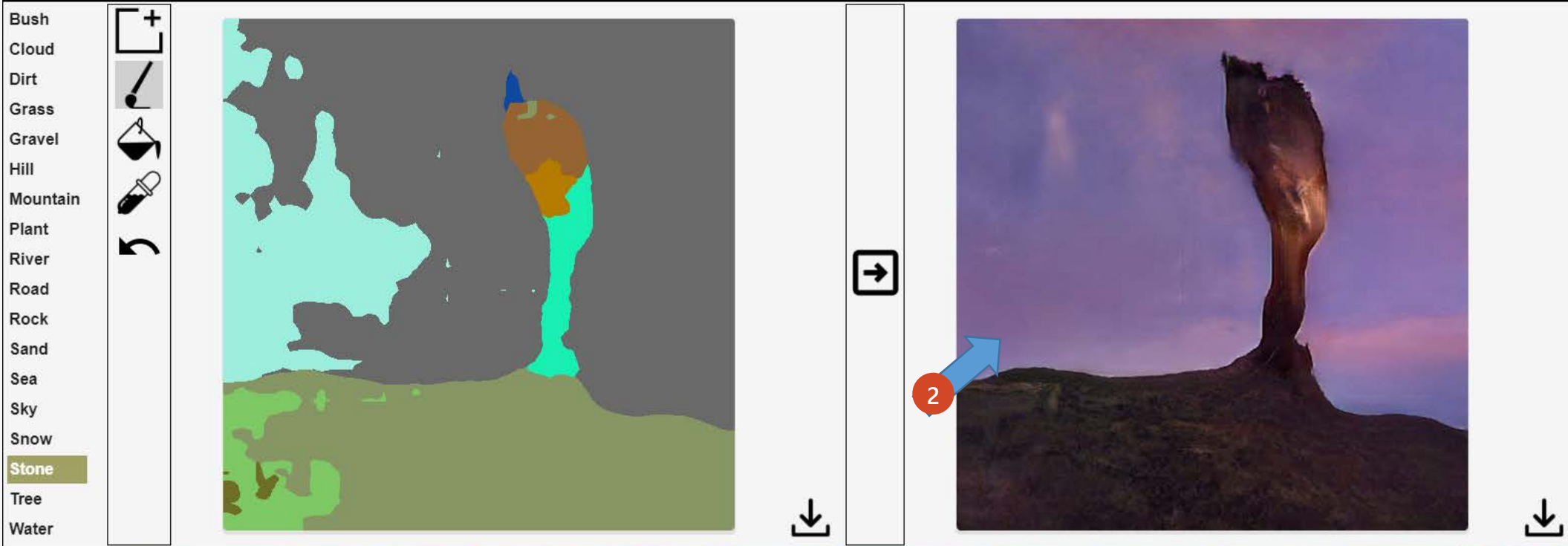
The software interface includes a sidebar with categories: Mountain, Plant, River, Road, Rock, Sand, Sea, Sky, Snow, Stone, Tree, and Water. The "Stone" category is currently selected. The interface also features a grid of landscape images and a bottom toolbar with buttons for "Upload Segmentation Map", "Upload Landscape Image", "Upload Style Filter", and "Upload Painting".

上傳一張自訂影像快速建立色塊並自訂風格之高更設計成果

Fill/brush color:  Brush shape:    Brush size: 24 

 GauGAN Beta

Bush
Cloud
Dirt
Grass
Gravel
Hill
Mountain
Plant
River
Road
Rock
Sand
Sea
Sky
Snow
Stone
Tree
Water



The interface shows a central workspace divided into two main panels. The left panel displays a segmented map of the rock formation, with different regions colored in shades of cyan, brown, and green. A vertical toolbar on the left side of this panel contains various icons for editing and adding elements. The right panel shows the generated image of the rock formation, which is a dark, jagged rock formation against a purple and blue sky. A blue arrow labeled '2' points to the base of the rock formation in the generated image. Below the main workspace, there are two rows of image thumbnails. The top row contains 12 thumbnails, including a cube icon with question marks and various landscape images. A blue arrow labeled '1' points to the last thumbnail in this row, which is a landscape image with a purple sky. The bottom row contains 12 thumbnails of various abstract and artistic styles, including a handprint, a face, and a landscape.

換你試試