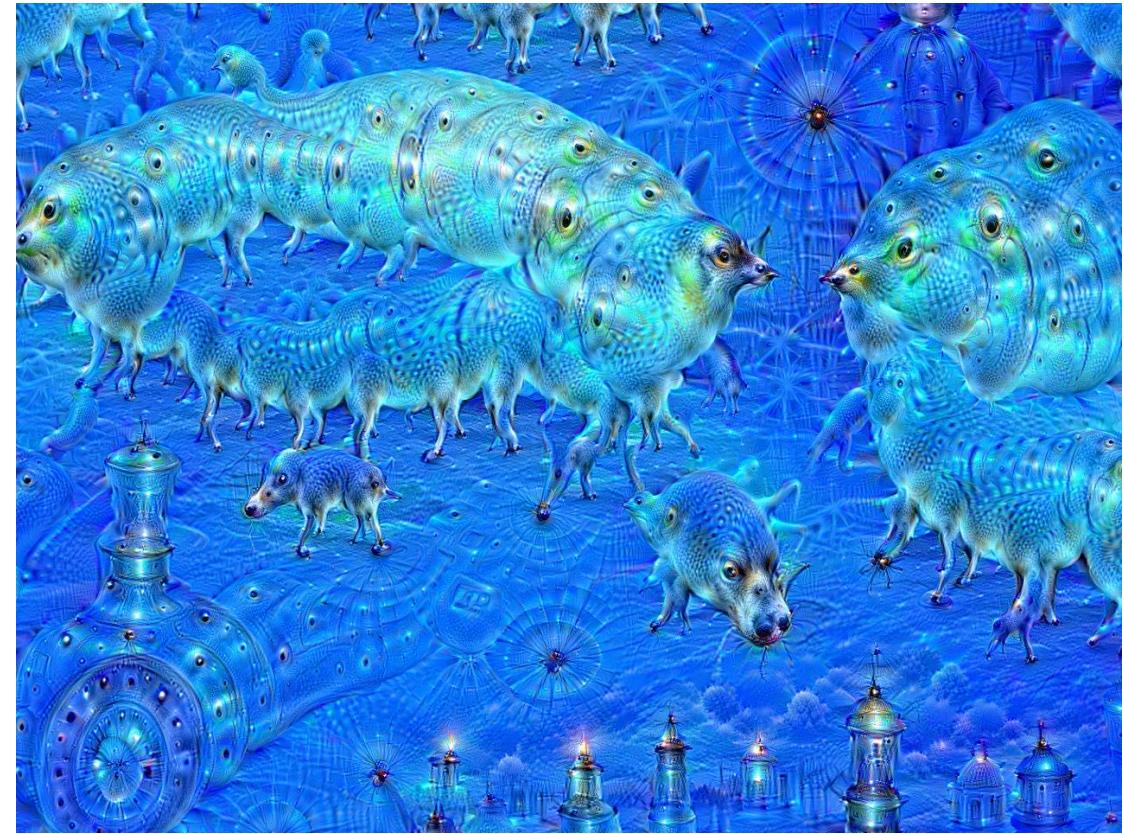
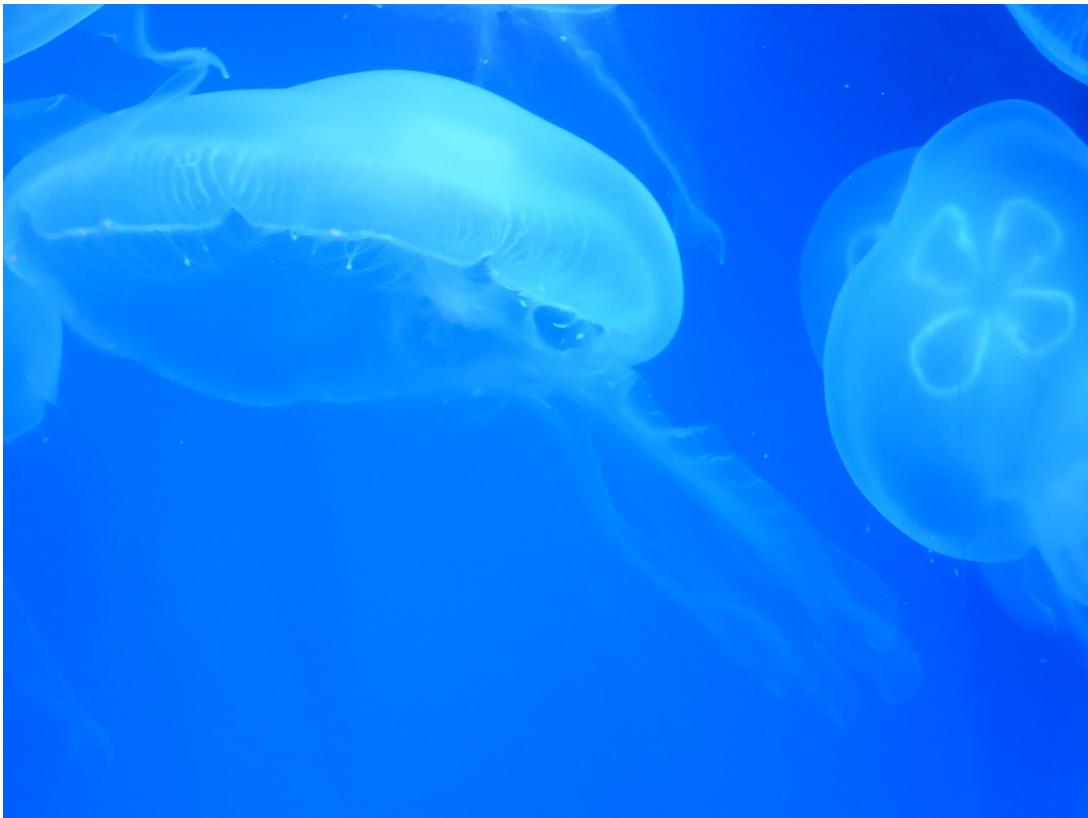


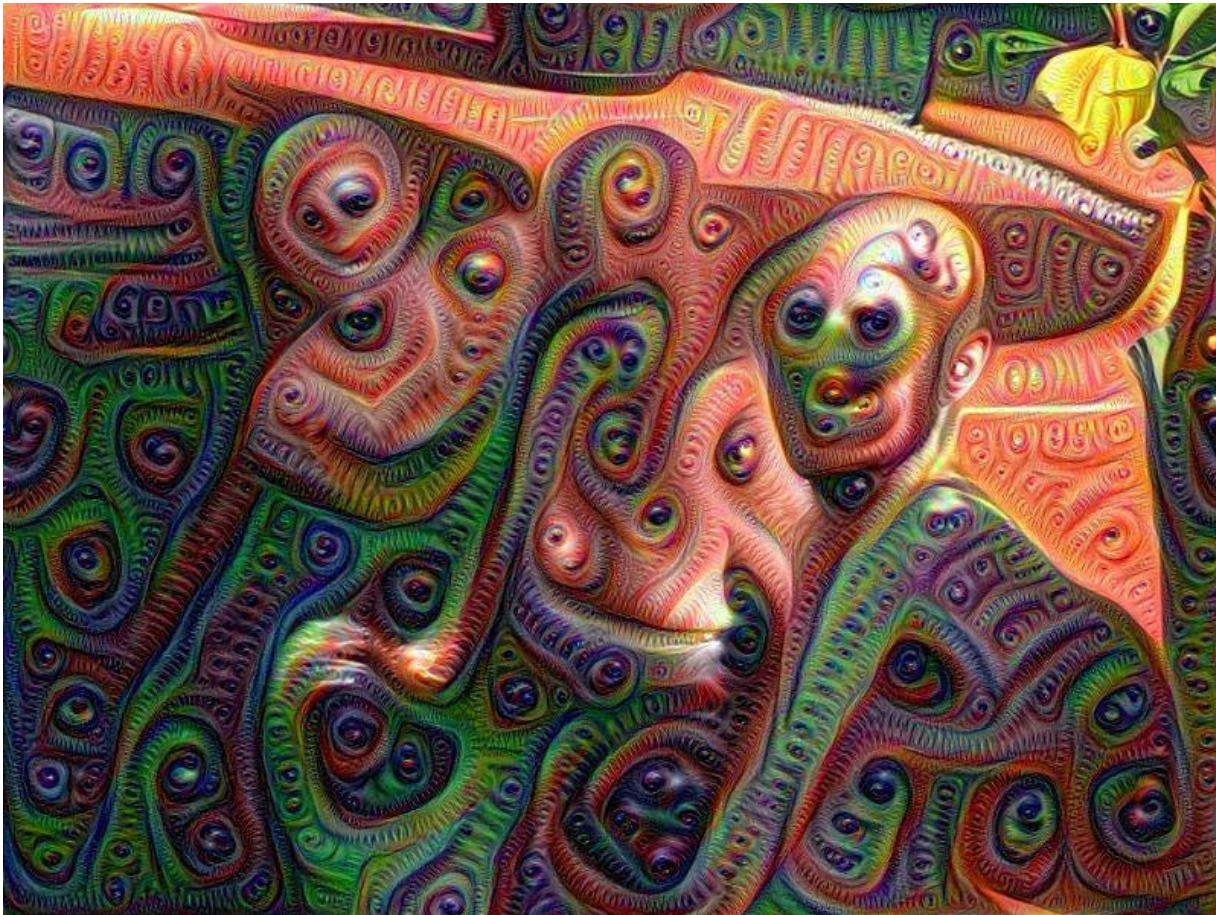
# Jenseits von Klassifizierung

- Deep Dream
  - Filteraktivierungen werden nach den Inputpixeln abgeleitet → Bestimmte Muster werden im Bild stark verstärkt.
- Style Transfer
  - Späte Aktivierungen kodieren den Inhalt
  - Frühe und mittlere Aktivierungen den „Stil“
  - Dadurch kann man Inhalt fix halten, aber den Stil übertragen
- CLIP-guided Generation
  - Das neue Bildklassifikationsmodell kann verschiedene Generative Modelle anleiten um anhand einer Beschreibung Bilder zu generieren.
- Perception-Head
  - Wenn der Input eines Systems aus Bild- oder Videodaten besteht, dann ist ein ConvNet immer eine gute Wahl, auch wenn danach z.B. Reinforcement-Learning betrieben wird.

# Deep Dreaming



# Deep Dreaming

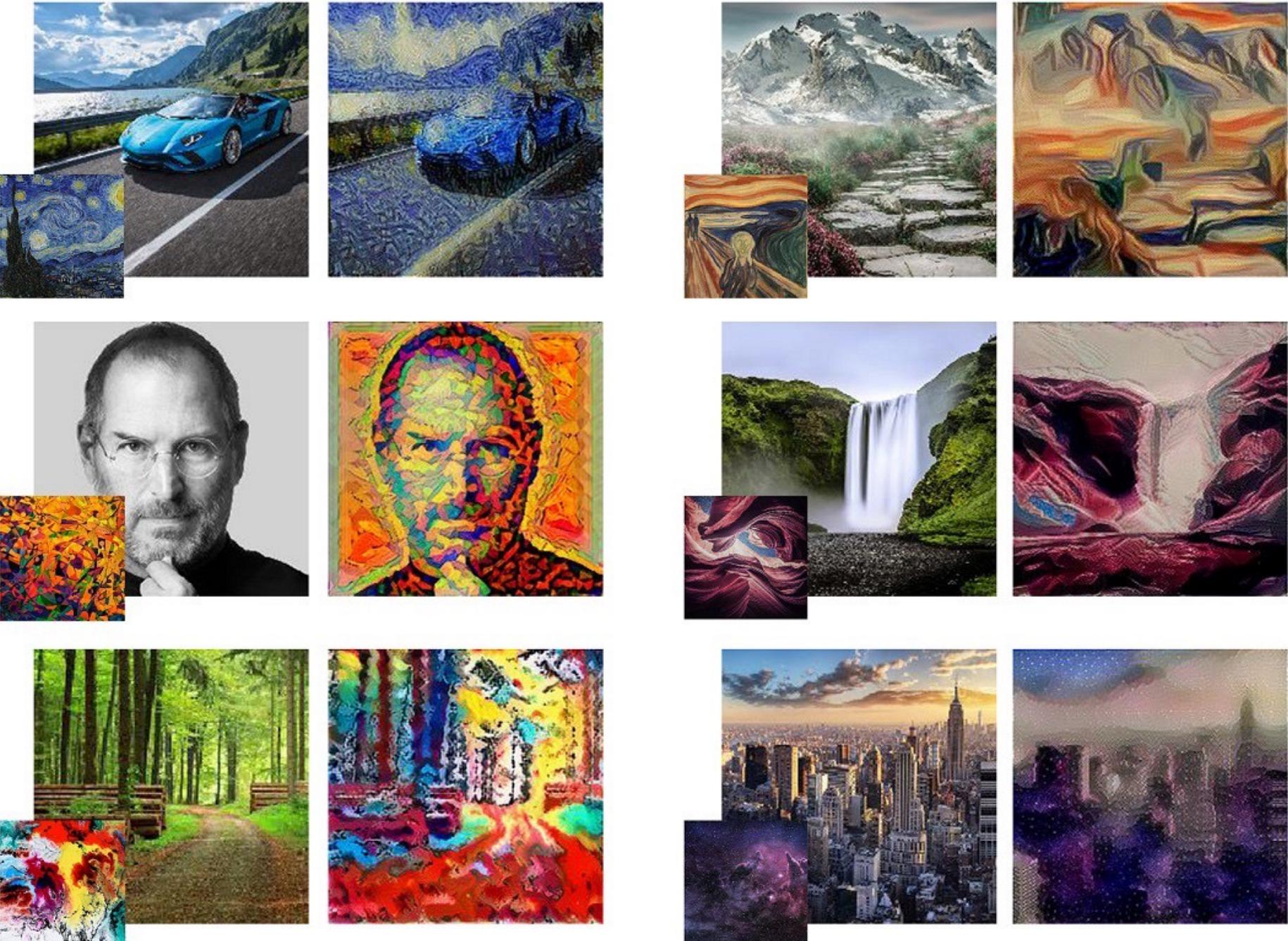


# Neural Style Transfer



Source: <https://towardsdatascience.com/a-brief-introduction-to-neural-style-transfer-d05d0403901d>

# Neural Style Transfer



# Große Fortschritte in Conditional Image Generation



# Esao Andrews

"a beautiful painting of a waterlily pond by Esao Andrews, Trending on artstation."



"a beautiful painting of a building in a serene landscape by Esao Andrews, Trending on artstation."



# steampunk

"a beautiful painting of a waterlily pond, steampunk"



"a beautiful painting of a building in a serene landscape, steampunk"



A city at night



Dancing in the  
moonlight (from vQ-  
GAN+CLIP)

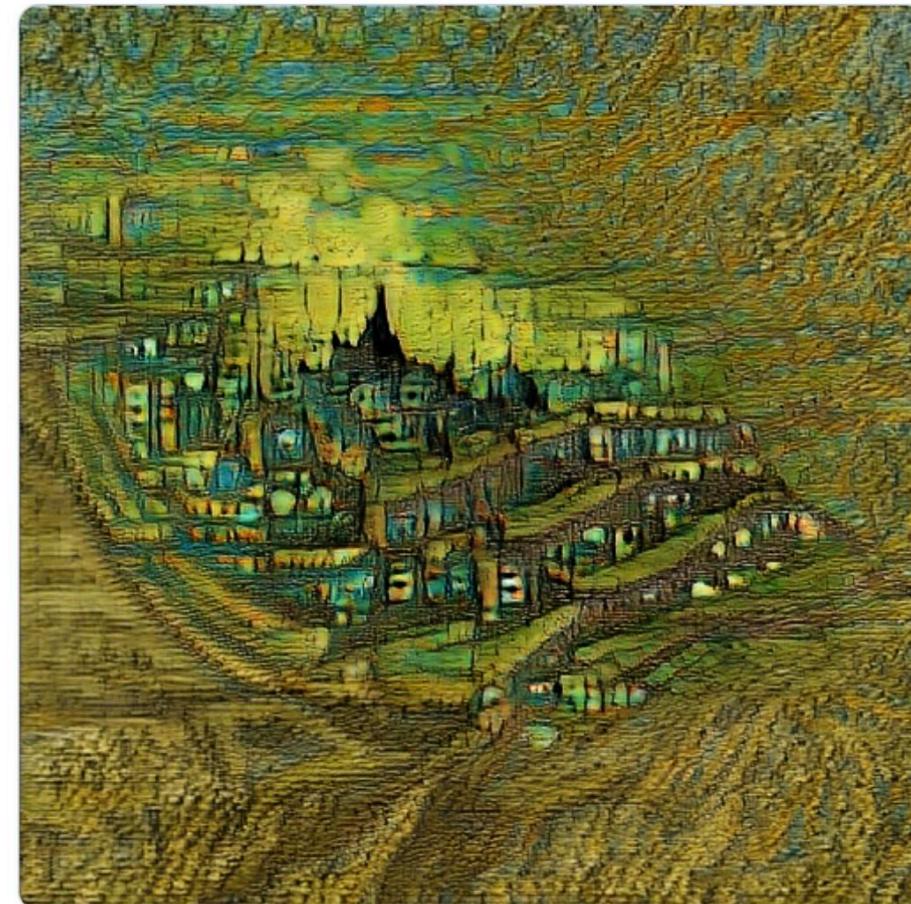


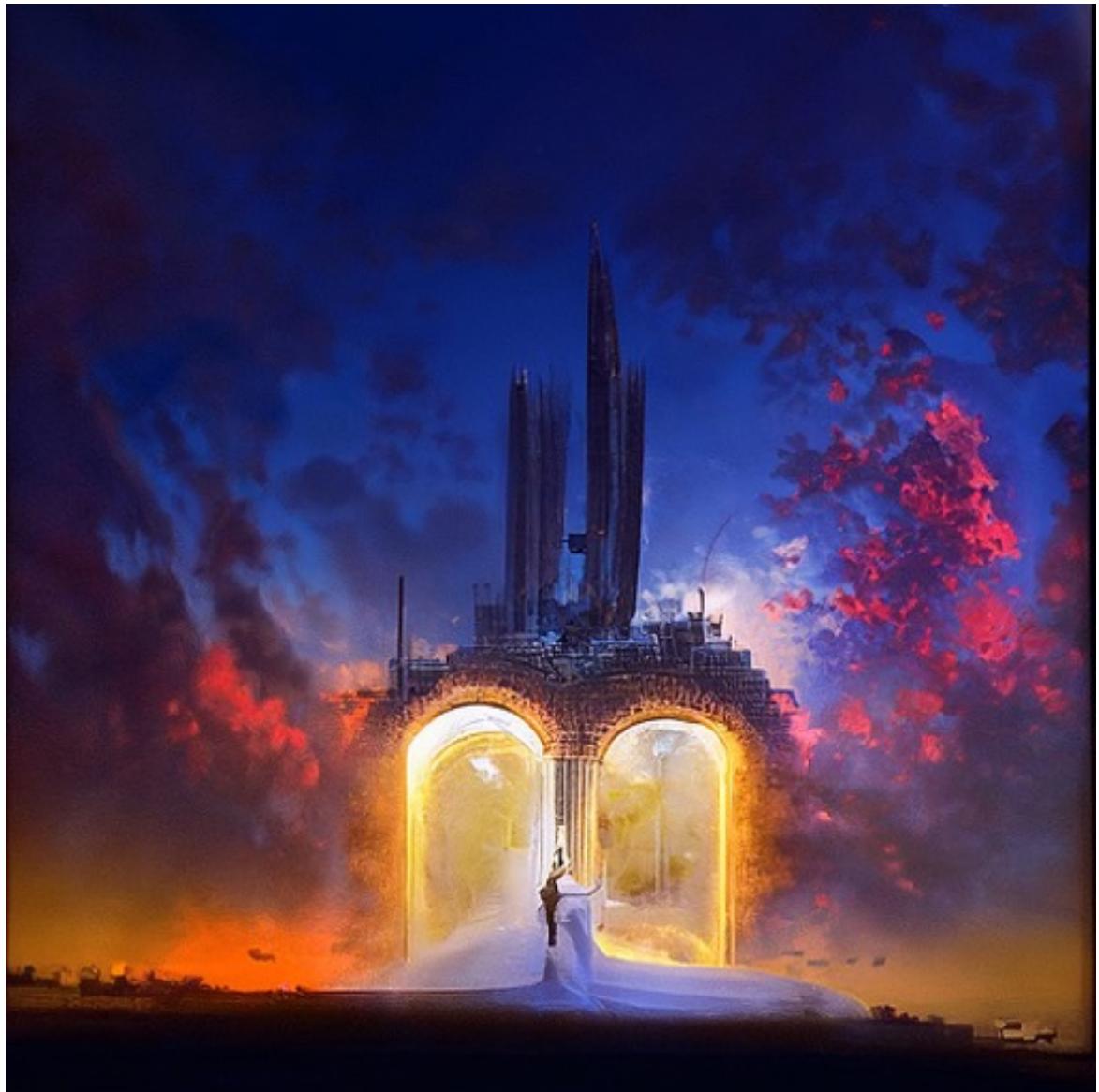
## The Big Sleep

Here's the notebook for generating images by using CLIP to guide BigGAN.

It's very much unstable and a prototype, but it's also a fair place to start. I'll likely update it as time goes on.

[colab.research.google.com/drive/1NCceX2m...](https://colab.research.google.com/drive/1NCceX2m...)



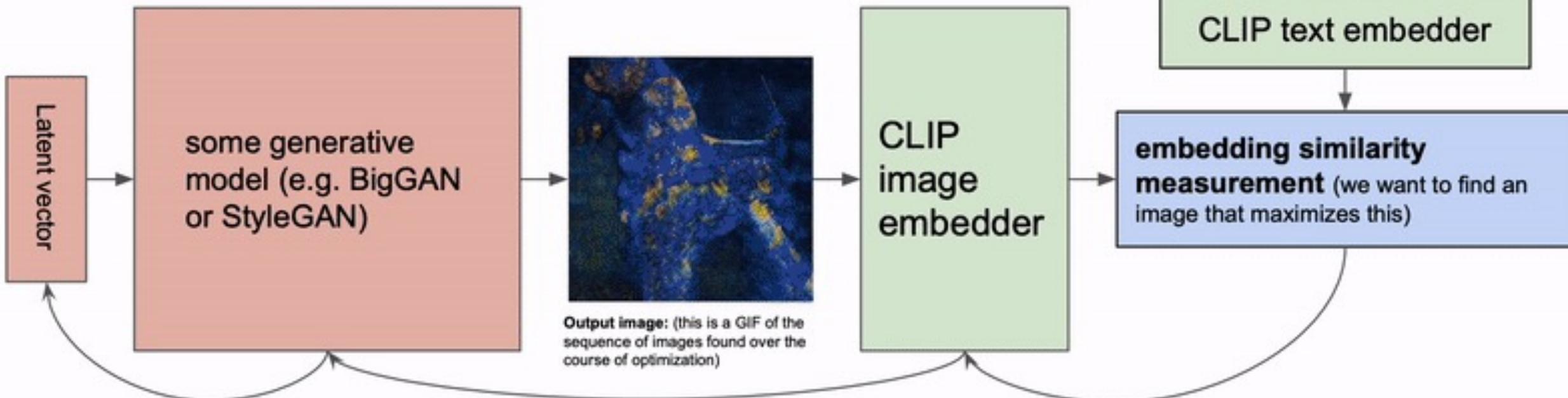


The gateway between dreams – oil painting on ArtStation

# How CLIP Generates Art

## Forward Pass:

Push a latent through the generative model to produce an image.  
Then pass the image to CLIP's image embedder to measure the  
image's similarity with the text prompt



repeat forward and backward  
passes until convergence

## Backward Pass:

Backpropagate through CLIP and the generative model, all the way back to the latent vector, and then use gradient ascent to update the latent, bringing the image slightly closer to matching with the text prompt.

# Perception head für Reinforcement Learning

