

# Character Generation

- Generate a drawing of an anime character, either completely randomly or with some details defined.



Random



Random



Pink eyes, Blue hair



Long hair, Glasses, No smile

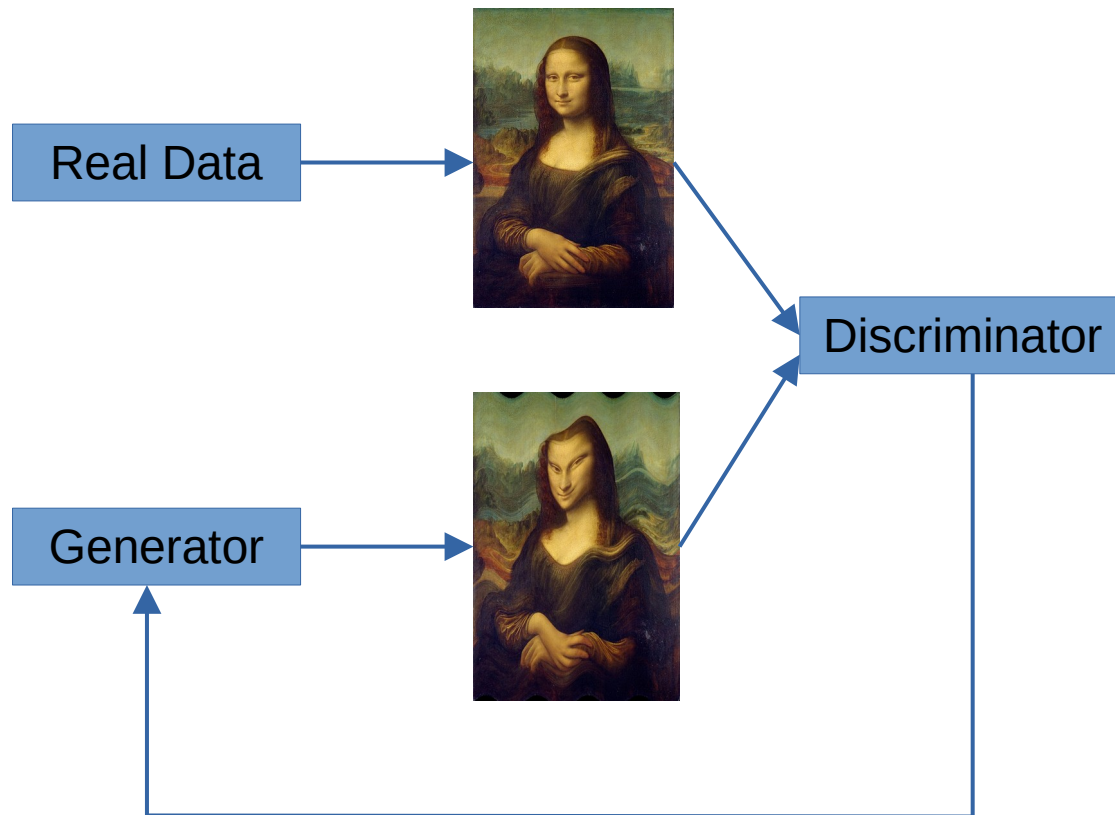
# Character Generation

Freely available tools:

- [thisanimedoesnotexist.ai](https://thisanimedoesnotexist.ai)
- [make.girls.moe](https://make.girls.moe)
- [waifulabs.com](https://waifulabs.com)
- [www.thiswaifudoesnotexist.net](https://www.thiswaifudoesnotexist.net)

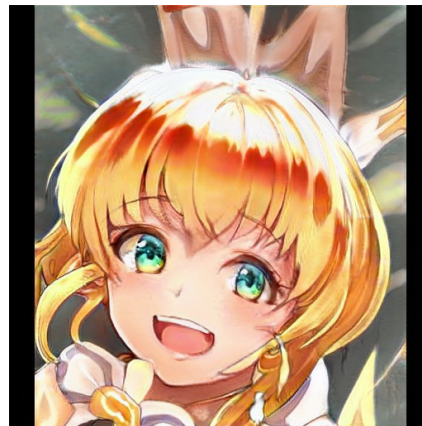
# Technical Details - GANs

- Discriminator vs. Generator
- Detective vs. Forger
- Eventually, generator learns to fool the discriminator, and has (hopefully) learned the distribution.



# History

- StyleGAN was made available Feb 2019
- StyleGAN2 was made available Feb 2020



Images Generated by StyleGAN2

# History

- Issue with GANs/VAEs
  - Limited ability to specify attributes (latent tags)
- Diffusion Models are much easier to direct

# History

- Stable Diffusion was made available 22 Aug 2022
- Waifu Diffusion v1.3 weights were made available 6 Oct 2022



1girl, blue hair, green cap, long hair, pink eyes



1boy, silver hair, red eyes, earrings

# Technical Details – Diffusion Models

- Undoes diffusion
- Key idea: everything looks the same if sufficiently blurred
- Begin with random noise, then progressively deblur it with help from the prompt

