

Can't Spell Anime Without AI

Kiran Kokilepersaud

Brighton Ancelin

Max Xu

Outline

- Intro
- Computer Vision
- Natural Language Processing
- Miscellaneous

Introductions



Kiran Kokilepersaud

PhD Student, Georgia Tech, Electrical & Computer Engineering Program

Favorite Anime: Grimgar of Fantasy and Ash



Brighton Ancelin

PhD Student, Georgia Tech, Machine Learning Program

Favorite Anime: Attack on Titan



Max Xu

PhD Student, Georgia Tech, Machine Learning Program

Favorite Anime: A Silent Voice

Audience

We think this presentation is most useful for...

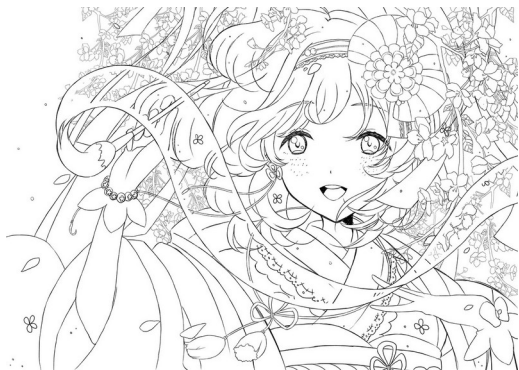
- Artists
- Weebs
- Computer Geeks
- Everyone interested in Artificial Intelligence

(FOSS)

This presentation was developed using free-and-open-source (FOSS) software; our code is freely available at github.com/kkokilep/Cant-Spell-Anime-Without-AI

Auto-Coloring

- Given a black-and-white sketch, color it in a reasonable manner, optionally with color information specified.



Original B&W Sketch



Random colorization



Purple hair, Cyan eyes

Auto-Coloring

Freely available tools:

- petalica-paint.pixiv.dev
- github.com/kvfrans/deepcolor
- github.com/DwangoMediaVillage/Comicolorization
- github.com/blandocs/Tag2Pix

[DEMO]

- [Auto-color some default characters. Have some funny recolorings.]
- [Let audience choose character (anything from internet will work), and color-scheme (any should work), and generate it. Could have some funny recoloring's of existing characters from various manga]
- [Ask if anyone in audience is an artist, and if so if they'd be willing to share a B&W sketch for us to autocolor]
- [Mention the use for artists, seeing what their sketches could look like with varying color schemes for inspiration]

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
- make.girls.moe
- waifulabs.com
- www.thiswaifudoesnotexist.net

[DEMO]

- [Generate some random characters]
- [Let audience choose details, generate those characters]
- [Mention how this can be useful for artists, e.g. get inspiration from these random characters]

Style Transfer

- Given an image of a person, then redraw it in another anime style.



Style Transfer

Freely available tools:

- waifu.lofiu.com
- huggingface.co/spaces/akhaliq/AnimeGANv2
- animefilter.com
- github.com/CherylHuang/Faces2Anime

[DEMO]

- [Style-transfer some default characters. Do some funny ones.]
- [Let audience choose style (from a predefined list), choose character (anything from internet will work), do the style-transfer]
- [Show how you can even use style-transfer on real-world pictures of people]
- [Get someone in audience to take a photo, and we'll generate their anime character in a variety of styles]
- [Mention the use for artists, seeing what their existing characters might look like in another style]

Face Translation

- Given a video of a human face, render a digital avatar face with the same expression and details.
- Commonly used by Vtubers



Face Translation

Freely available tools:

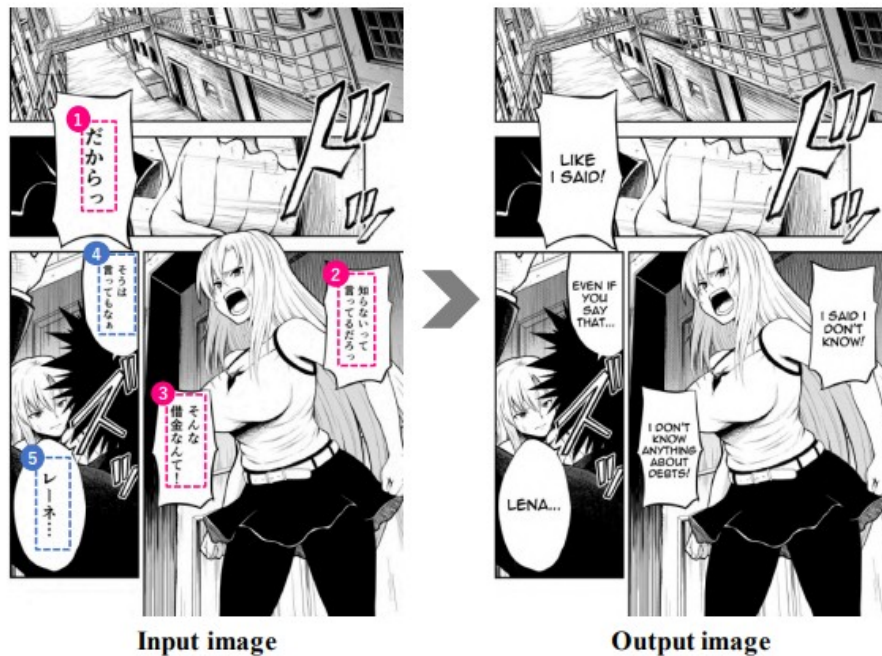
- Vtube Studio (denchisoft.com)
- PrprLive

[DEMO]

- [Live face-translate one of us onto some avatar]
- [Ask for an audience member to come up and try it out]

In-Place Manga Translation

- Replace the japanese in a manga panel with the corresponding english in the same location



In-Place Manga Translation

Freely available tools:

- github.com/mantra-inc/open-mantra-dataset
- github.com/manga109/manga109api

[DEMO]

- [Ask Audience for obscure manga with only Japanese characters]
- [Make fun of how well the model is able to translate]
- [Mention the use for fans, being able to read their favorite obscure manga before translators get around to it]

Manga Auto-Captioning

- Given a series of manga panels, generate feasible captions for each panel.



"i see you have been
used to be a man"



"i thought you said a
man who needs a drink"



"i dont think
this is a problem"

**Captions on Test Set
Cartoons**

Manga Auto-Captioning

Freely available tools:

- www.tensorflow.org/tutorials/text/image_captioning
- github.com/sgrvinod/a-PyTorch-Tutorial-to-Image-Captioning

[DEMO]

- [Ask audience for favorite anime pictures]
- [Put pictures through model and get corresponding captions to show audience]
- [Get audience to guess how model was trained]

(FOSS Reminder)

This presentation was developed using free-and-open-source (FOSS) software; our code is freely available at github.com/kkokilep/Cant-Spell-Anime-Without-AI