Manga-to-Anime Translation Using Cycle-Consistency
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Motivation
The manga and anime industry adapts each other's work to produce content for their audiences. Unfortunately, artists are underpaid and overworked. Therefore, an automated system that handles the manga-to-anime translation task is much needed.

GANime is a Generative Adversarial Network (GAN) that performs on the manga-to-anime translation task using concepts of cycle-consistency.

![Figure 1: manga-to-anime translation example.](image)

![Figure 2: example image from manga and anime datasets.](image)

Data

<table>
<thead>
<tr>
<th>Manga</th>
<th>Anime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Image Size</td>
<td>256x256</td>
</tr>
<tr>
<td># Images per Dataset</td>
<td>1,000</td>
</tr>
<tr>
<td>Split</td>
<td>80%:20%:100</td>
</tr>
<tr>
<td>Source</td>
<td>Manga/FR, Anime/FR; Datasets2017</td>
</tr>
</tbody>
</table>

References

5. Pang et al., A robust panel extraction method for manga, ACCV, 2014.

Results

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning rate</td>
<td>0.0002</td>
</tr>
<tr>
<td>Epochs</td>
<td>100</td>
</tr>
</tbody>
</table>

![Figure 3: Results.](image)

Discussion

Limitations: The manga domain has image panels while anime domain has one main image per sample. This makes the discriminators' job really easy and causes generators to switch between panels and single images.

Future Work:
- Image processing of manga pages to extract panels to then feed into the network.
- Data collection for a professional anime dataset.
- CGAN + CycleGAN

![Figure 5: manga panel extraction example.](image)