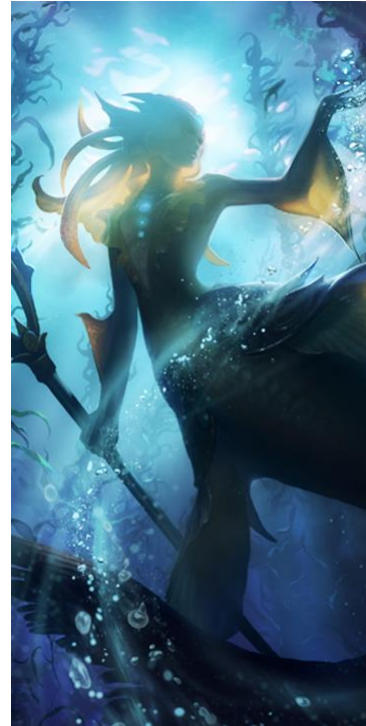


MMAI Final Project

# Painting Style Classification

R01942068 賴威昇  
R01944031 韓鯤偉  
R01944007 簡伯宇

# Painting Style



**Distinguished the painting style of artworks**

# Painting Style....?

Structure «

Idea «

Perspective «



» Contour

» Color

» Texture

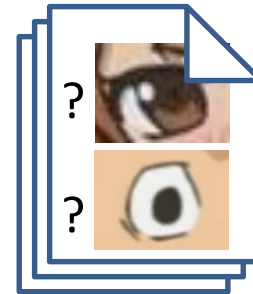
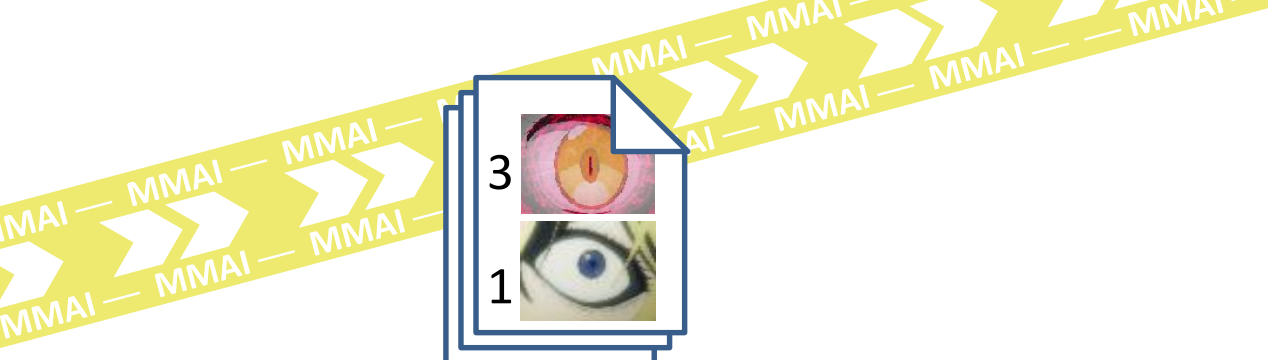
» Details

# Animation!!!



Motivation > Difficulty > **Methodology** > Features > Experiment > Result





1 3.326649e-01 2.768537e-01 3.161031e-01 ...  
1 4.584165e-01 3.499025e-01 2.816884e-01 ...  
1 6.117375e-01 6.616177e-01 1.043100e-01 ...

1 6.568805e-01 6.405908e-01 1.626663e-01 ...  
1 2.701187e-01 6.114837e-01 1.047372e-01 ...  
1 2.321211e-01 3.483838e-01 2.255005e-01 ...

**Machine Learning  
(SVM)**

**Model**



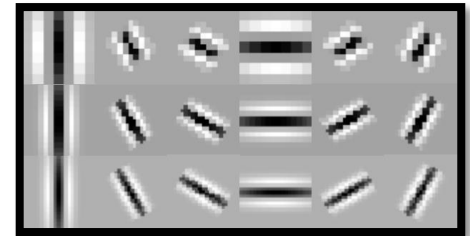


# Features

- **Edge Histogram**
  - histogram of magnitudes, directions
- **Color Histogram**
  - HSV color space
- **Gabor Features**
  - 4 scales x 8 orientation
- **Pyramid Wavelet Transform**
  - high/low-pass filters

# Features

- Line
- Dark Line
- Gradient Histogram
- Quantized SURF Feature



# Data

あっちこっち  
一起一起  
這裡那裡



偽物語  
偽物語

バクマン。  
爆漫王



ソードアート・  
オンライン  
刀劍神域

反逆のルルーシュ  
反逆的  
魯路修



絶園のテンペスト  
絶園的  
暴风雨

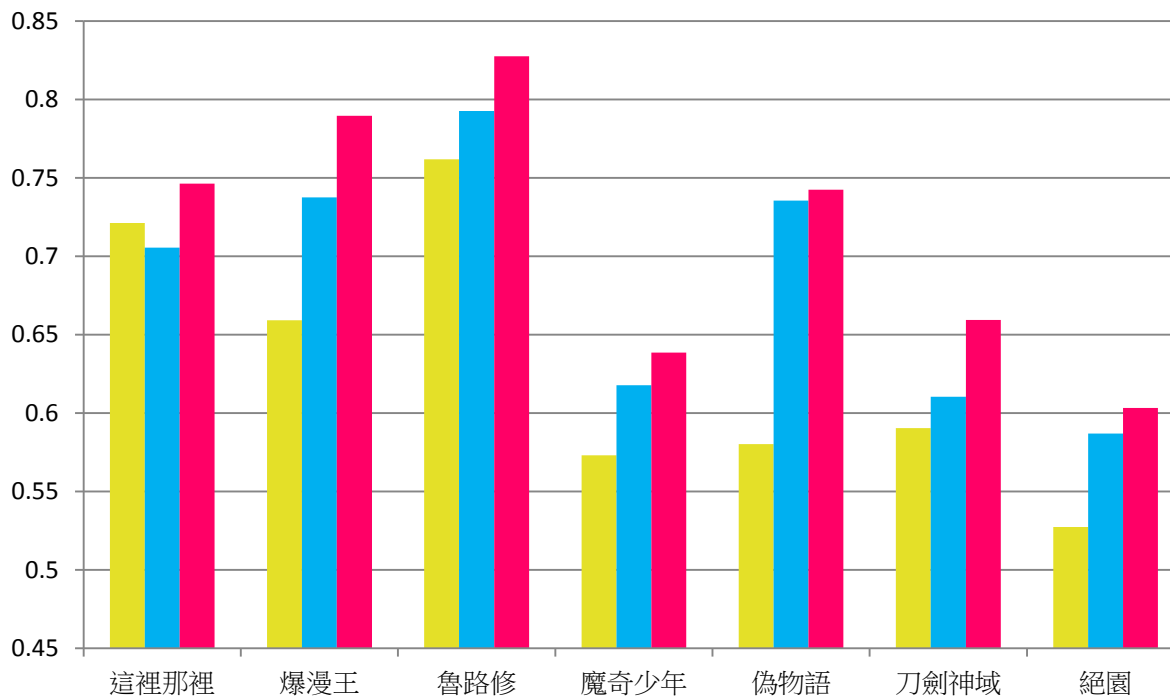
マギ  
魔奇少年





# Result

Data Size	Accuracy
$100 \times 7$	63.11
$200 \times 7$	68.36
$300 \times 7$	71.66

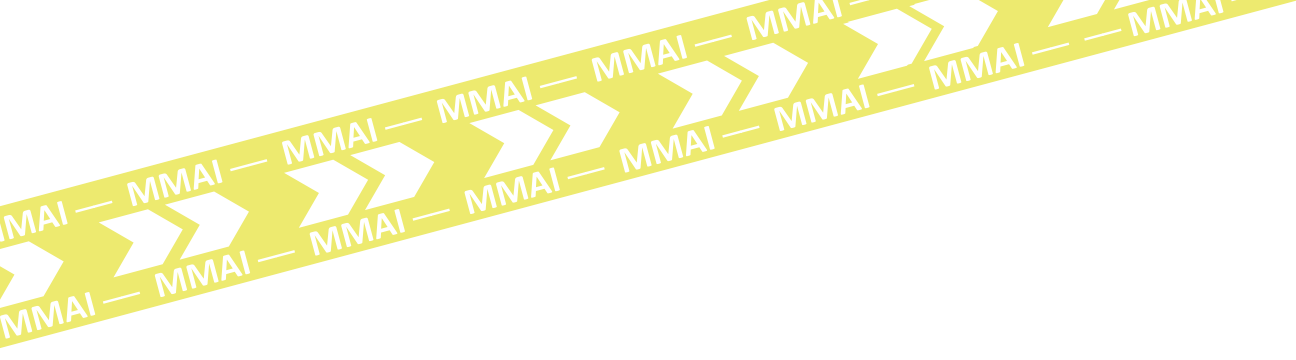




# Feature Selection

**Dataset =  $200 \times 7$  image**

Feature	Accuracy
All	61.84%
Remove Line	51.48%
Remove Gabor	56.96%
Remove PWT	58.97%
Remove DarkLine	59.50%
Remove Edge	60.74%
Remove SURF	68.36%



# Q&A