BASIC LAB

Data Science HW 5: Makeup Transfer

TA: 陳泓仁

Email: hjc.ee07@nycu.edu.tw

Problem

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- Dataset:
  - training data: 1500 non-makeup images and 1500 makeup images. We also provide corresponding **facial landmarks** and **masks**.

Source Reference Target

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Problem

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- Dataset:
  - training data: 1500 non-makeup images and 1500 makeup images. We also provide corresponding **facial landmarks** and **masks**.

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Problem

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- Inference:
  - testing data: 125 non-makeup images and 125 makeup images.
  - 125 pairs are based on the image filenames.
  - you need to generate 125 after-makeup images.

non-makeup/0.png makeup/0.png

Problem

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- Evaluation
  - We use Structural Similarity Index (**SSIM)** as the evaluation metric.
  - SSIM works by comparing three aspects of the images: luminance, contrast, and structure.
  - A higher SSIM value indicates greater similarity between the images, with 1 representing identical images and 0 indicating no similarity.

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Problem

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- Evaluation
  - We use Structural Similarity Index (**SSIM)** as the evaluation metric. Please refer to the Kaggle pages for details and be sure you understand the submission format.
  - img_id: image filename
  - label: flattened image (128x128x3—>49152)
  - create_submission.py can help you transform images.

img_id	label
0	129 136 129 119 119 123 125 117 107 104 96 62 41 32
223	220 217 213 211 211 212 210 206 199 196 191 189 189 181 1
1	77 72 69 66 67 84 129 144 160 160 160 146 130 119 10
141	137 134 132 132 134 136 132 113 60 25 22 25 32 31 38 55 59
10	181 195 187 153 78 32 27 9 13 8 3 3 0 0 0 0 3 8 27 37 5
7	146 149 148 151 149 151 148 150 147 149 145 146 143 145 143
100	84 75 69 63 55 51 55 54 50 49 51 46 38 38 39 38 35 31
177	178 178 180 184 186 188 196 204 212 214 213 212 215 213 1
101	75 62 60 57 56 57 57 53 54 52 56 52 45 34 21 12 9 9 10
1	34 46 52 59 93 87 88 102 109 110 115 121 130 135 138 139 137
102	79 69 70 68 69 68 69 65 68 65 70 68 61 47 29 16 11 13
62	157 150 146 147 155 163 158 146 132 120 94 39 13 12 15 22 2
103	35 21 21 20 18 19 17 17 21 23 22 23 25 28 29 29 30 29
4	24 19 20 20 20 20 20 19 20 19 19 18 19 16 15 13 14 14 13 12 12
104	213 220 207 148 107 103 103 89 70 85 114 121 112 85
190	194 199 202 202 202 206 206 206 205 205 203 201 197 193 1
105	84 62 76 109 120 121 132 139 134 184 207 216 214 17
61	164 165 168 168 172 176 173 161 143 130 133 144 143 137 13
106	107 91 85 81 85 80 77 77 84 80 83 81 83 77 76 74 77 7

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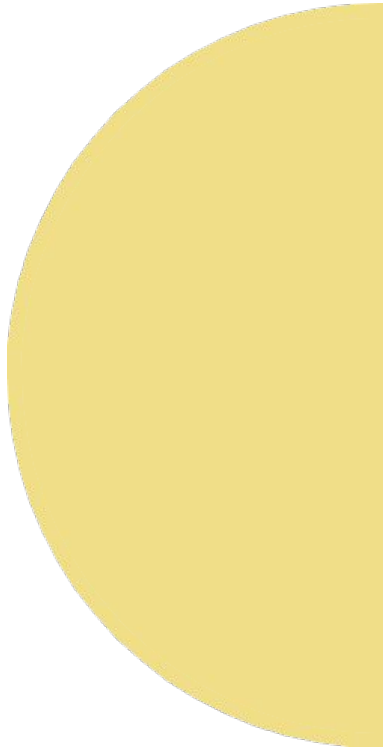
Grading Policy

- Top 10%: 100 points
- Top 25%: 90 points
- Top 50%: 80 points
- Top 75%: 75 points
- Over the baseline: 70 points
- Bellow the baseline (shown in leaderboard): 0 point
- Public 52%, Private 48%



Rules

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- Use your student ID as the team name on Kaggle.
- A maximum of **5** submissions per day is allowed on Kaggle.
- **Do not** use additional accounts to get more submission quota.
- **Do not** plagiarize. Write your own codes.
- **You can only use the dataset provided in this competition to train your model.**
- Do not attempt to recognize the datasets we used and hack the testing performance. You will not obtain scores for this homework if you violate this rule (we will re-implement your results).

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Submissions

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- Submit your results to Kaggle:

  https://www.kaggle.com/t/1435dcd604074eb5ab79052e0c53b249

- Submit your zipped source code {student_id}.zip to E3. the zip file should contain a folder {student_id}:
  - {student_id}
    - {student_id}.sh: run this script should regenerate your final submission result.
    - requirements.txt: list the required libraries.
    - Other files

Homework Information

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- Deadline: 2024/6/4 23:59
- [TA]陳泓仁: hjc.ee07@nycu.edu.tw
- Please email to schedule an appointment if you have any questions.

Reference

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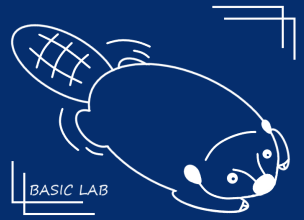
- You can refer to these papers to help you implement the makeup transfer model.
  - BeautyGAN: Instance-level Facial Makeup Transfer with Deep Generative Adversarial Network
  - LADN: Local Adversarial Disentangling Network for Facial Makeup and De-Makeup
  - PSGAN: Pose and Expression Robust Spatial-Aware GAN for Customizable Makeup Transfer

Thank you



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