**Environment Setup**

Image size: 384\*384

backbone: <https://github.com/jeonsworld/ViT-pytorch>

model: ViT-B\_16

evaluate code: <https://colab.research.google.com/drive/1v_e11ra8cbTz99MsVXvSyzWerMPD-B9n?usp=sharing>

root path: '/content/drive/MyDrive/12\_03\_2565/ViT-pytorch-main/ViT-pytorch-main/'

root path: '/content/drive/MyDrive/12\_03\_2565/ViTpytorch\_v2/'

classes: {0:'angry', 1:'happy', 2:'neutral', 3:'relax', 4:'sad'}

Skip: 5 frames

Data path: '/content/drive/MyDrive/data/'

Dataset: MU dataset (label แบบภาพรวมไม่ได้มองแค่ face)

Train code: ViT-pytorch-main#1.ipynb

<https://colab.research.google.com/drive/15n2aLQPicCSshOXbLlO-xCDPhe0OAoqR?usp=sharing>

Train code: ViT-pytorch-main#2.ipynb

<https://colab.research.google.com/drive/10ZcA_l50iNftl__kVPI1YC6Wfxz2IPR9?usp=sharing>

**Test: anger video**

|  |  |
| --- | --- |
| Train: happy+relax+sad+stress video  Test: anger video  x\_test shape: (5812, 384, 384, 3) y\_test: (5812,)  model name: h\_r\_sa\_st-ViT-B\_16-finetune-384  balance: N | Train: happy+relax+sad+stress video  Test: anger video  x\_test shape: (5812, 384, 384, 3) y\_test: (5812,)  model name: h\_r\_sa\_st-ViT-B\_16-finetune-384  balance: Y |

|  |  |
| --- | --- |
| Sample face |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Balance class: N | | | Balance class: Y | | |
|  | | |  | | |
|  |  | F1/acc |  |  | F1/acc |
| Train | Validate | Test | Train | Validate | Test |
|  |  | 0.6/0.74 |  |  | 0.16/0.24 |

|  |  |  |  |
| --- | --- | --- | --- |
| Happy | relax | sad | stress |
|  |  |  |  |
| Test F1/acc = 0.28/0.57 | Test F1/acc = 0.56/0.81 | Test F1/acc = 0.92/0.95 | Test F1/acc = 0.90/0.88 |

Train on Balance class: N

|  |  |  |  |
| --- | --- | --- | --- |
| Happy | relax | sad | stress |
|  |  |  |  |
| Test F1/acc = 0.89/0.89 | Test F1/acc = 0.75/0.80 | Test F1/acc = 0.94/0.96 | Test F1/acc = 0.93/0.91 |

Train on Balance class: Y

**Test: happy video**

|  |  |
| --- | --- |
| Train: anger+relax+sad+stress video  Test: happy video  model name:  balance: N | Train: anger+relax+sad+stress video  Test: happy video  model name:  balance: Y |

|  |  |
| --- | --- |
| Sample face |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Balance class: N | | | Balance class: Y | | |
|  | | |  | | |
|  |  | F1-macro |  |  | F1-macro/acc |
| Train | Validate | Test | Train | Validate | Test |
|  |  | 0.91 |  |  | 0.37/0.56 |

**Test:** **relax video**

|  |  |
| --- | --- |
| Train: anger+happy+sad+stress video  Test: relax video  model name:  balance: N | Train: anger+happy+sad+stress video  Test: relax video  model name:  balance: Y |

|  |  |
| --- | --- |
| Sample face |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Balance class: N | | | Balance class: Y | | |
|  | | |  | | |
|  |  | F1-macro |  |  | F1-macro/acc |
| Train | Validate | Test | Train | Validate | Test |
|  |  | 0.26 |  |  | 0.31/0.53 |

**Test: sad video**

|  |  |
| --- | --- |
| Train: anger+happy+relax+stress video  Test: sad video  model name:  balance: N | Train: anger+happy+relax+stress video  Test: sad video  model name:  balance: Y |

|  |  |
| --- | --- |
| Sample face |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Balance class: N | | | Balance class: Y | | |
|  | | |  | | |
|  |  | F1-macro |  |  | F1-macro/acc |
| Train | Validate | Test | Train | Validate | Test |
|  |  | 0.33 |  |  | 0.32/0.75 |

**Test: stress video**

|  |  |
| --- | --- |
| Train: anger+happy+relax+sad video  Test: stress video  model name:  balance: N | Train: anger+happy+relax+sad video  Test: stress video  model name:  balance: Y |

|  |  |
| --- | --- |
| Sample face |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Balance class: N | | | Balance class: Y | | |
|  | | |  | | |
|  |  | F1-macro |  |  | F1-macro/acc |
| Train | Validate | Test | Train | Validate | Test |
|  |  | 0.28 |  |  | 0.27/0.51 |

Ref

CNN\_Res50\_train\_update\_11042656.ipynb

<https://colab.research.google.com/drive/1ciYNnfNEIJ5oRX6UAVtJ20YYDNxLVBmb?usp=sharing>

Copy of CNN\_Res50\_train\_update\_11042656.ipynb

<https://colab.research.google.com/drive/11h4JBGOm-n6z6qyRiIjT3rPn7eMYDvqH?usp=sharing>

Copy of Copy of CNN\_Res50\_train\_update\_11042656.ipynb

<https://colab.research.google.com/drive/1G74-oNQEgNuz-LtibtF_jQ80su-rxIsC?usp=sharing>

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<https://colab.research.google.com/drive/1Ra4f8Ae9Q0TFcyTyOuzqejZeqEoynBp2?usp=sharing>

Copy of visualize\_attention\_map (1).ipynb

<https://colab.research.google.com/drive/1IgJEEVwsRvC9BkaeVrvgT2tIbj7nulDt?usp=sharing>

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<https://colab.research.google.com/drive/1pH0JOj56_BotmQHanoNkBqKyV4zlhkmE?usp=sharing>

Copy of Copy of Copy of visualize\_attention\_map (1).ipynb

<https://colab.research.google.com/drive/1ZdTW1E6-zDE3pwwlrRHec2cHy21GKrap?usp=sharing>