



Madcamp2020

김규리 김진혁 김하운

Problem Definition

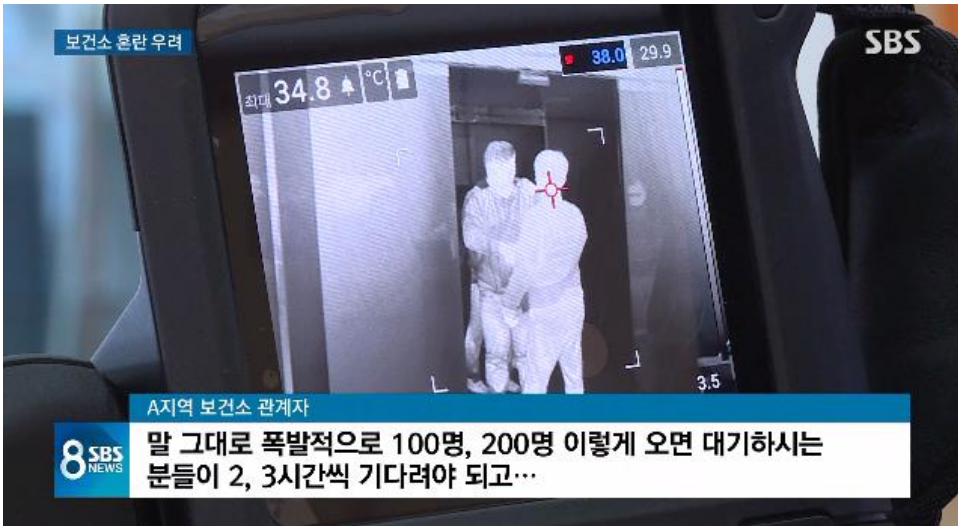


서울시, '마스크 미착용 승객' 특별대책...지하철 '앱 신고제' 도입

해운대에서 마스크 미착용 50대 입건...마스크 의무화 이후 첫 사례

곽진석 기자 kwak@busan.com

입력: 2020-07-27 12:27:45 수정: 2020-07-27 13:04:05 게재: 2020-07-27 13:06:19



시설·인력 부족한데...진단검사 대상 또 늘린다?

기사입력 2020.02.19. 오후 8:49 최종수정 2020.02.19. 오후 10:09 기사원문 스크랩 본문듣기 설정

내일 '2만 명' 시험... "마스크 안 쓰면 입실 불가"

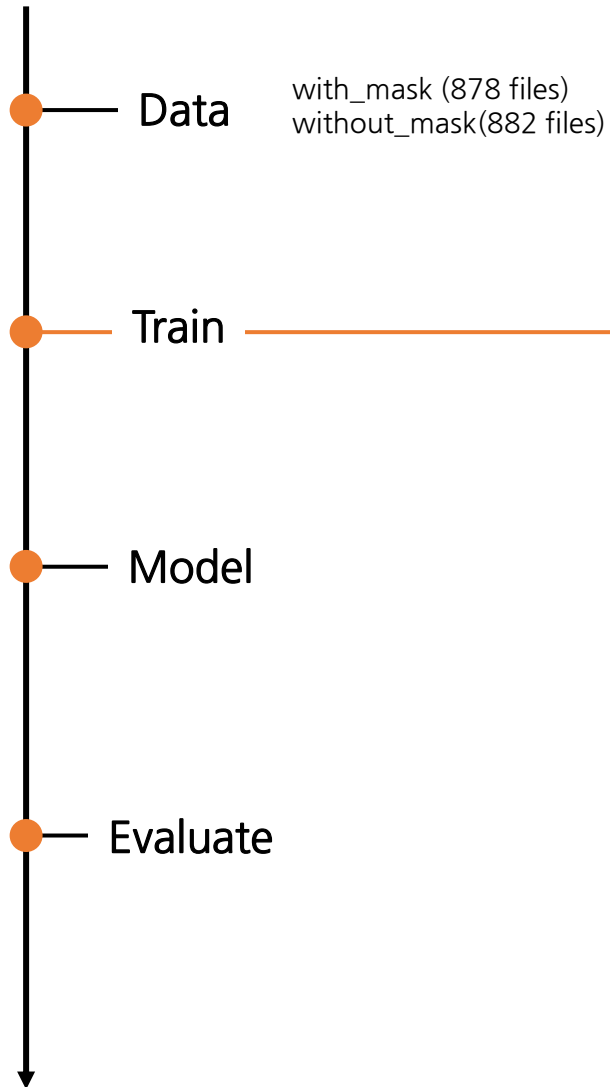
입력 2020-05-15 19:59 | 수정 2020-05-15 20:38



Solution

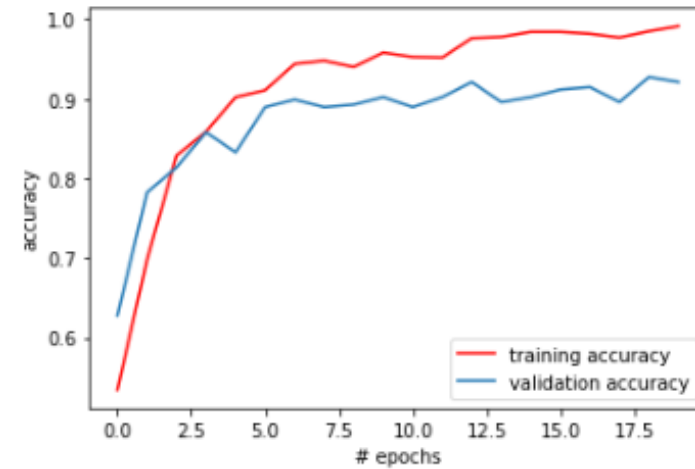
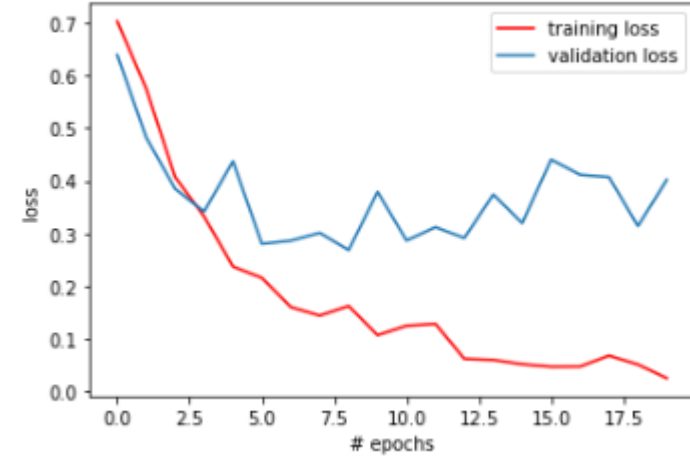
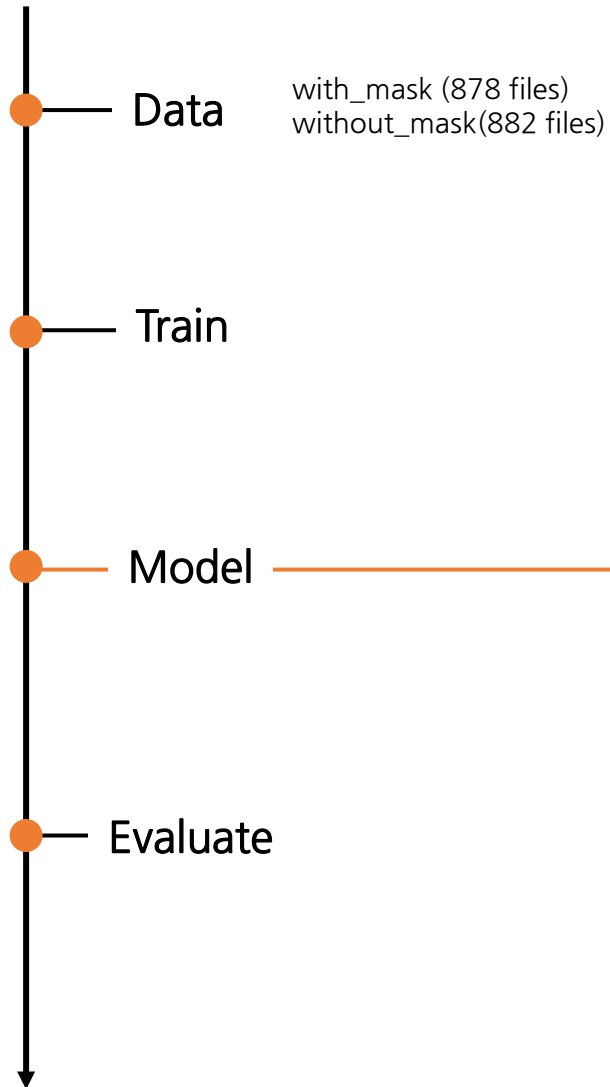
Mask Detector Application!

Model using Keras

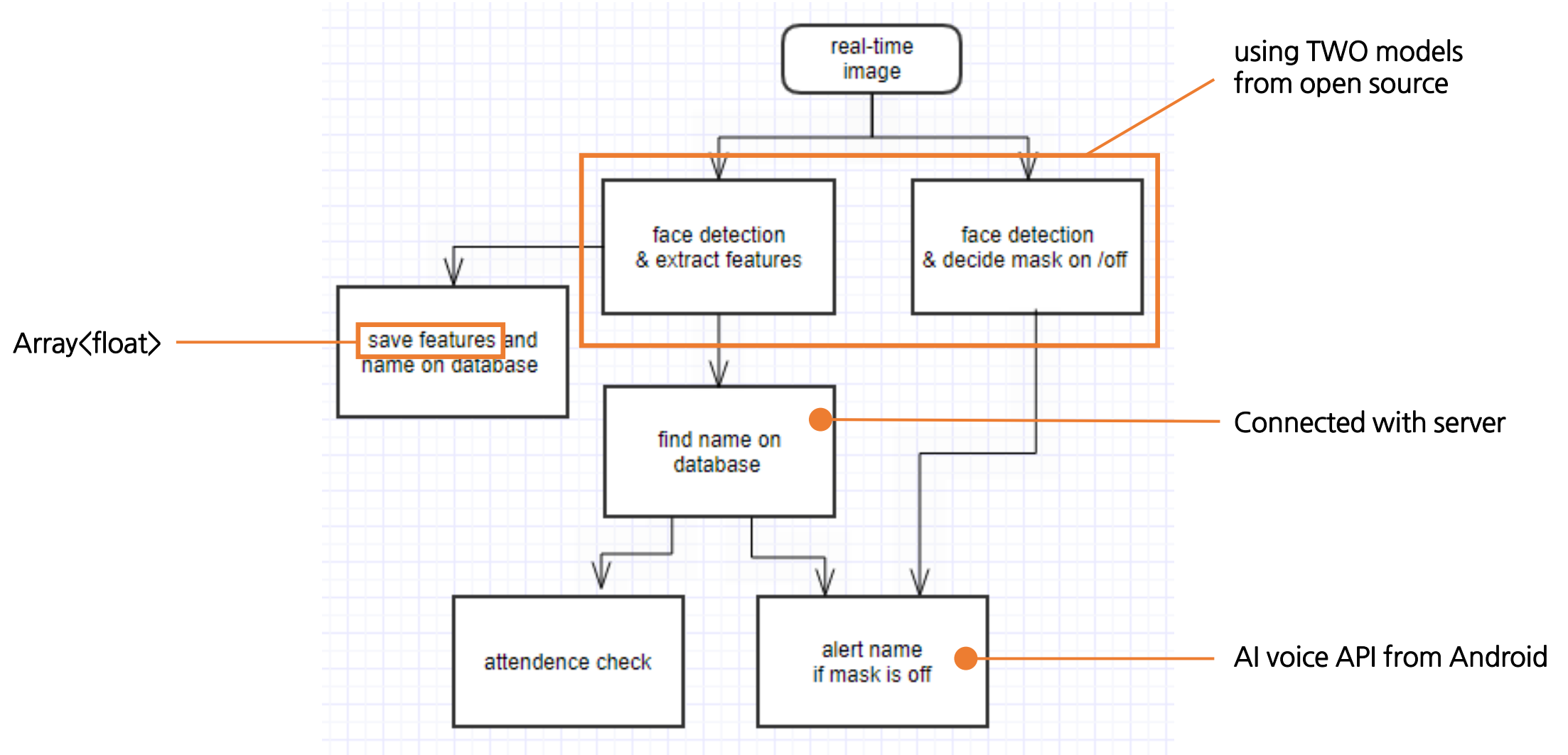


```
Epoch 1/20
40/40 [=====] - 63s 2s/step - loss: 0.7833 - accuracy: 0.5343 - val_loss: 0.6393 - val_accuracy: 0.6278
Epoch 2/20
40/40 [=====] - 63s 2s/step - loss: 0.5754 - accuracy: 0.6977 - val_loss: 0.4826 - val_accuracy: 0.7823
Epoch 3/20
40/40 [=====] - 63s 2s/step - loss: 0.4072 - accuracy: 0.8287 - val_loss: 0.3848 - val_accuracy: 0.8139
Epoch 4/20
40/40 [=====] - 63s 2s/step - loss: 0.3325 - accuracy: 0.8587 - val_loss: 0.3416 - val_accuracy: 0.8580
Epoch 5/20
40/40 [=====] - 62s 2s/step - loss: 0.2371 - accuracy: 0.9021 - val_loss: 0.4372 - val_accuracy: 0.8328
Epoch 6/20
40/40 [=====] - 85s 2s/step - loss: 0.2154 - accuracy: 0.9108 - val_loss: 0.2801 - val_accuracy: 0.8896
Epoch 7/20
40/40 [=====] - 61s 2s/step - loss: 0.1600 - accuracy: 0.9440 - val_loss: 0.2862 - val_accuracy: 0.8991
Epoch 8/20
40/40 [=====] - 61s 2s/step - loss: 0.1437 - accuracy: 0.9479 - val_loss: 0.3011 - val_accuracy: 0.8896
Epoch 9/20
40/40 [=====] - 66s 2s/step - loss: 0.1621 - accuracy: 0.9400 - val_loss: 0.2683 - val_accuracy: 0.8927
Epoch 10/20
40/40 [=====] - 64s 2s/step - loss: 0.1065 - accuracy: 0.9582 - val_loss: 0.3791 - val_accuracy: 0.9022
Epoch 11/20
40/40 [=====] - 62s 2s/step - loss: 0.1245 - accuracy: 0.9526 - val_loss: 0.2865 - val_accuracy: 0.8896
Epoch 12/20
40/40 [=====] - 62s 2s/step - loss: 0.1280 - accuracy: 0.9519 - val_loss: 0.3120 - val_accuracy: 0.9022
Epoch 13/20
40/40 [=====] - 66s 2s/step - loss: 0.0616 - accuracy: 0.9763 - val_loss: 0.2913 - val_accuracy: 0.9211
Epoch 14/20
40/40 [=====] - 62s 2s/step - loss: 0.0594 - accuracy: 0.9779 - val_loss: 0.3741 - val_accuracy: 0.8959
Epoch 15/20
40/40 [=====] - 61s 2s/step - loss: 0.0512 - accuracy: 0.9842 - val_loss: 0.3197 - val_accuracy: 0.9022
Epoch 16/20
40/40 [=====] - 77s 2s/step - loss: 0.0465 - accuracy: 0.9842 - val_loss: 0.4406 - val_accuracy: 0.9117
Epoch 17/20
40/40 [=====] - 63s 2s/step - loss: 0.0468 - accuracy: 0.9818 - val_loss: 0.4116 - val_accuracy: 0.9148
Epoch 18/20
40/40 [=====] - 64s 2s/step - loss: 0.0676 - accuracy: 0.9771 - val_loss: 0.4073 - val_accuracy: 0.8959
Epoch 19/20
40/40 [=====] - 63s 2s/step - loss: 0.0507 - accuracy: 0.9850 - val_loss: 0.3140 - val_accuracy: 0.9274
Epoch 20/20
40/40 [=====] - 63s 2s/step - loss: 0.0247 - accuracy: 0.9913 - val_loss: 0.4020 - val_accuracy: 0.9211
```

Model using Keras



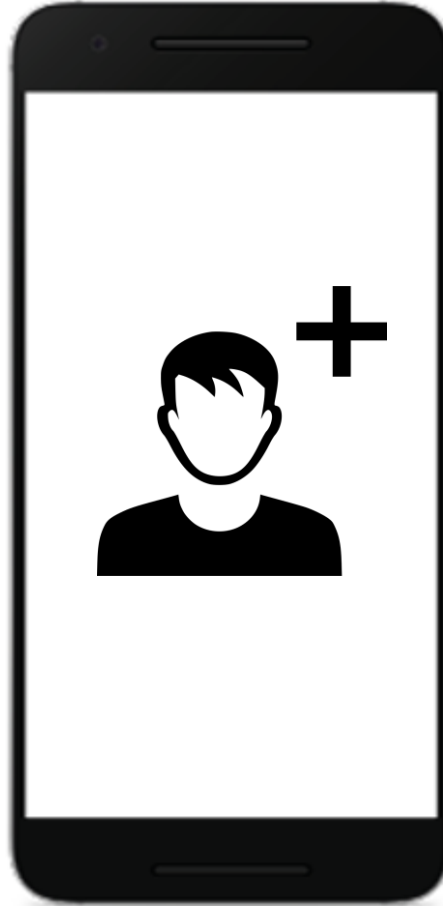
Overall Structure



Results



Detect Mask on/off
and face recognition



Add new faces



Alert with sound

Thank you