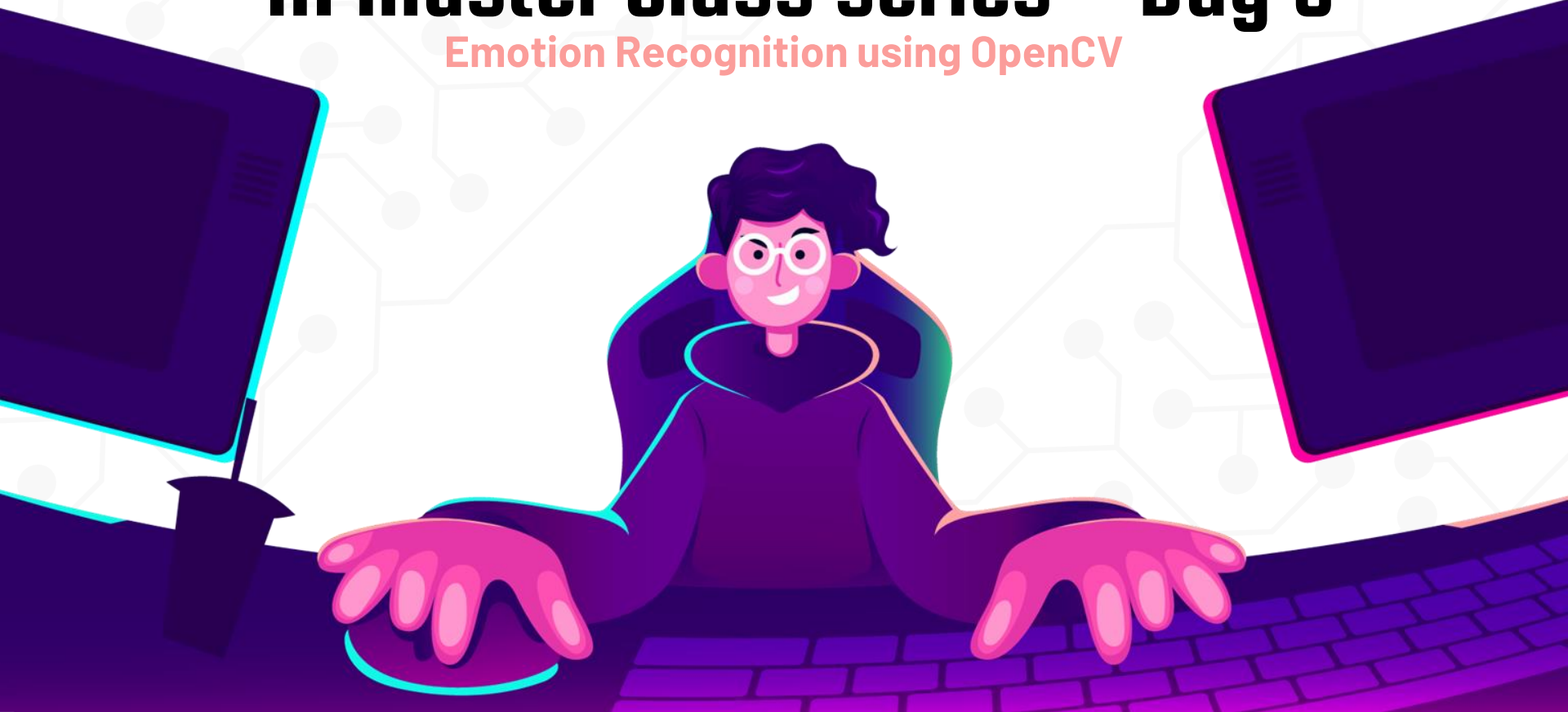PANTECH SOLUTIONS®
Technology Beyond the Dreams

AI Master Class series — Day 8
Emotion Recognition using OpenCV

Day-8 Agenda.

01.

Face emotion recognition

Face emotion recognition & its application

02.

Overview on Libraries used

Face recognition library

03.

Face emotion recognition

Real-time face emotion recognition

Face emotion recognition.

Facial emotion recognition is the process of detecting human emotions from facial expressions. The human brain recognizes emotions automatically, and software has now been developed that can recognize emotions

AI can detect emotions by learning what each facial expression means and applying that knowledge to the new information presented to it. Emotional artificial intelligence, or emotion AI, is a technology that is capable of reading, imitating, interpreting, and responding to human facial expressions and emotions.

Installing Libraries

torch	torchvision	python
master / nightly	master / nightly	>=3.6
1.6.0	0.7.0	>=3.6
1.5.1	0.6.1	>=3.5
1.5.0	0.6.0	>=3.5
1.4.0	0.5.0	==2.7, >=3.5, <=3.8
1.3.1	0.4.2	==2.7, >=3.5, <=3.7
1.3.0	0.4.1	==2.7, >=3.5, <=3.7
1.2.0	0.4.0	==2.7, >=3.5, <=3.7
1.1.0	0.3.0	==2.7, >=3.5, <=3.7
<=1.0.1	0.2.2	==2.7, >=3.5, <=3.7

Installing Libraries <=Python 3.7

pytorch: pip3 install --find-links
https://download.pytorch.org/whl/torch_stable.html
torch==1.3.1 torchvision==0.4.2

```
C:\Windows\system32>pip install --find-links https://download.pytorch.org/whl/torch_stable.html torch==1.3.1 torchvision
==0.4.2
Looking in links: https://download.pytorch.org/whl/torch_stable.html
Collecting torch==1.3.1
  Downloading https://download.pytorch.org/whl/cu92/torch-1.3.1%2Bcu92-cp37-cp37m-win_amd64.whl (644.4 MB)
     |████████████████████████████| 644.4 MB 3.5 kB/s
Collecting torchvision==0.4.2
  Downloading https://download.pytorch.org/whl/cu92/torchvision-0.4.2%2Bcu92-cp37-cp37m-win_amd64.whl (1.1 MB)
     |████████████████████████████| 1.1 MB 145 kB/s
Requirement already satisfied: numpy in c:\program files (x86)\microsoft visual studio\shared\python37_64\lib\site-packa
ges (from torch==1.3.1) (1.18.5)
Requirement already satisfied: pillow>=4.1.1 in c:\program files (x86)\microsoft visual studio\shared\python37_64\lib\si
te-packages (from torchvision==0.4.2) (7.2.0)
Requirement already satisfied: six in c:\program files (x86)\microsoft visual studio\shared\python37_64\lib\site-package
s (from torchvision==0.4.2) (1.15.0)
Installing collected packages: torch, torchvision
Successfully installed torch-1.3.1+cu92 torchvision-0.4.2+cu92
```

Installing Libraries

Facial Emotion recognition: pip install facial-emotion-recognition

```
Successfully built facial-emotion-recognition
Installing collected packages: facenet-pytorch, facial-emotion-recognition
Successfully installed facenet-pytorch-2.5.0 facial-emotion-recognition-0.3.3
```

Configuring Torch for CPU

./site-package/torch/serialization.py

Change:

`def load(f, map_location=None, pickle_module=pickle, **pickle_load_args):`

to

`def load(f, map_location='cpu', pickle_module=pickle, **pickle_load_args):`

Practical session

Face Emotion Recognition

```python
from facial_emotion_recognition import EmotionRecognition
import cv2

emRec = EmotionRecognition(device='cpu')
cam = cv2.VideoCapture(0)

while True:
    success, frame = cam.read()
    frame = emRec.recognise_emotion(frame, return_type='BGR')
    cv.imshow('frame', frame)
    key = cv2.waitKey(1)
    if key == 27:
        break

cam.release()
cv2.destroyAllWindows()
```
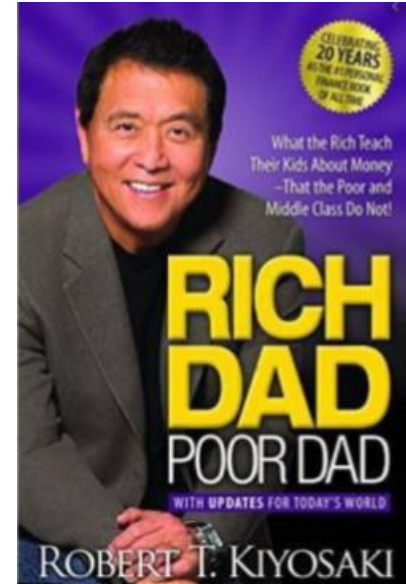
Today's Short Bytes — Book Suggestion

- **Asset & Liability**

- **Focus on their asset columns, instead account statement**

- **Work to Learn – Don't Work For Money**

- **People who avoid Failure also avoid success**

- **Managing money is more important than making money**

Q & A session

Thanks!

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Tomorrow session

Introduction to Deep Learning | How to install DL Libraries