Introduction to Intel® Distribution of OpenVINO™ toolkit for Computer Vision Applications

100: Beginner-level
Lesson 06

Introduction to Intel® Distribution of **OpenVINO™** toolkit for Computer Vision Application

OpenVINO 100 – **Course agenda**

Lesson 1: Introduction, why do we need Artificial Intelligence (AI).

Lesson 2: What is Video, what is computer vision, how do we accelerate it on modern computers.

Lesson 3: How to accelerate Video processing

Lesson 4: How to accelerate Neural Network for vision applications

Lesson 5: Video Analytics pipeline

Lesson 6: Demos, OpenVINO at work

Lesson 7: The full flow, from Data to a product using Intel tools-Part 1.

Lesson 8: The full flow, from Data to a product using Intel tools-Part 2.

Lesson 9: Summary, intro to next course (200)

Agenda

1. Interactive Face Detection demo
2. Multi-channel face-detection demo
3. Pedestrian tracking demo
4. Road segmentation demo

Agenda

1. Interactive Face Detection demo
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gtamir@gtamir-desktop: ~
File Edit View Search Terminal Help
--> netron ~/MODELS/head-pose-estimation-adas-0001.xml

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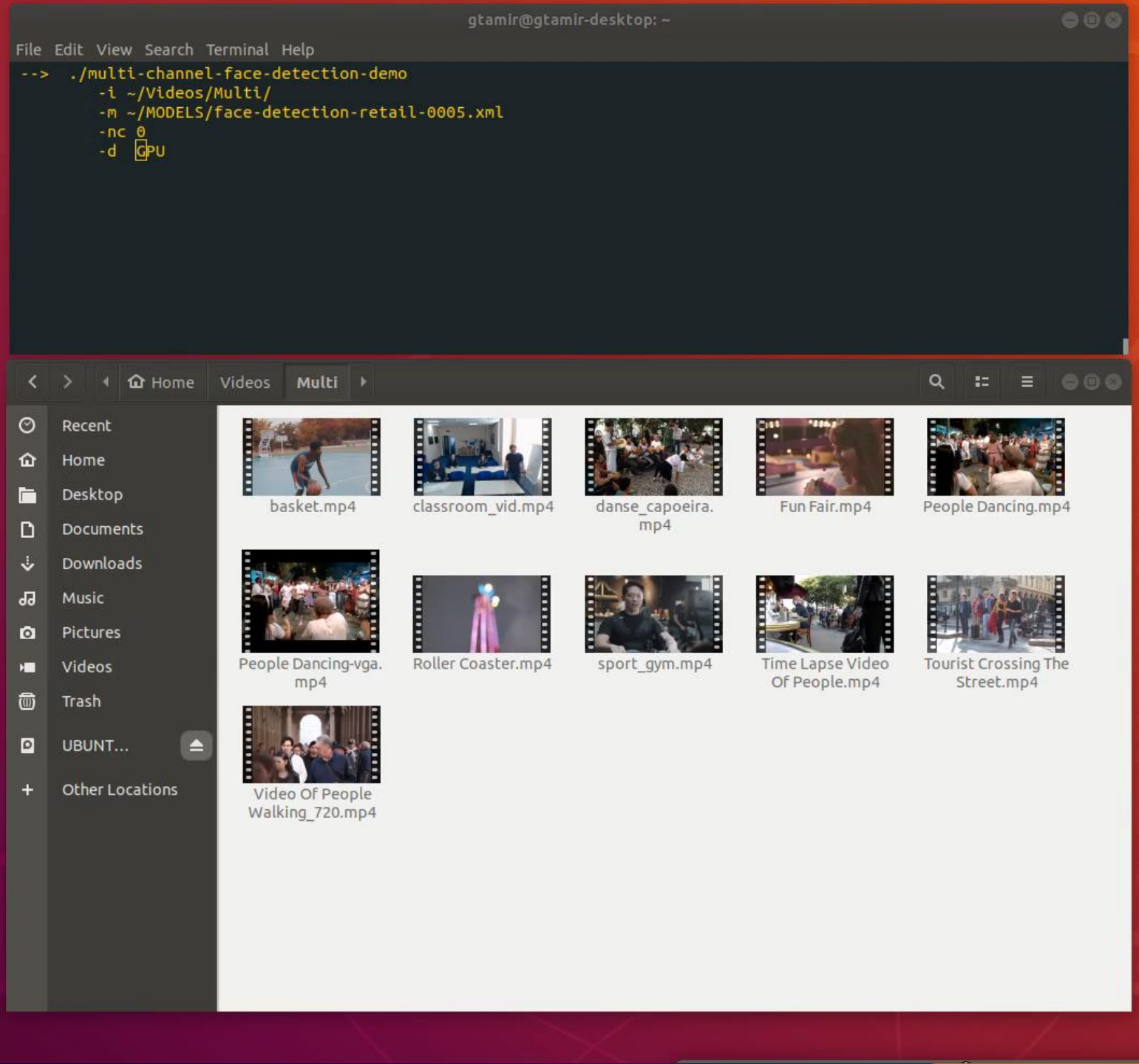
gtamir@gtamir-desktop: ~
File Edit View Search Terminal Help
--> ./multi-channel-face-detection-demo
-i ~/Videos/Multi/
-m ~/MODELS/face-detection-retail-0005.xml
-nc 0
-d GPU
Home
Videos
Multi
Recent
Home
Desktop
Documents
Downloads
Music
Pictures
Videos
Trash
UBUNT...
Other Locations
basket.mp4
classroom_vid.mp4
danse_capoeira.mp4
Fun Fair.mp4
People Dancing.mp4
People Dancing-vga.mp4
Roller Coaster.mp4
sport_gym.mp4
Time Lapse Video Of People.mp4
Tourist Crossing The Street.mp4
Video Of People Walking_720.mp4

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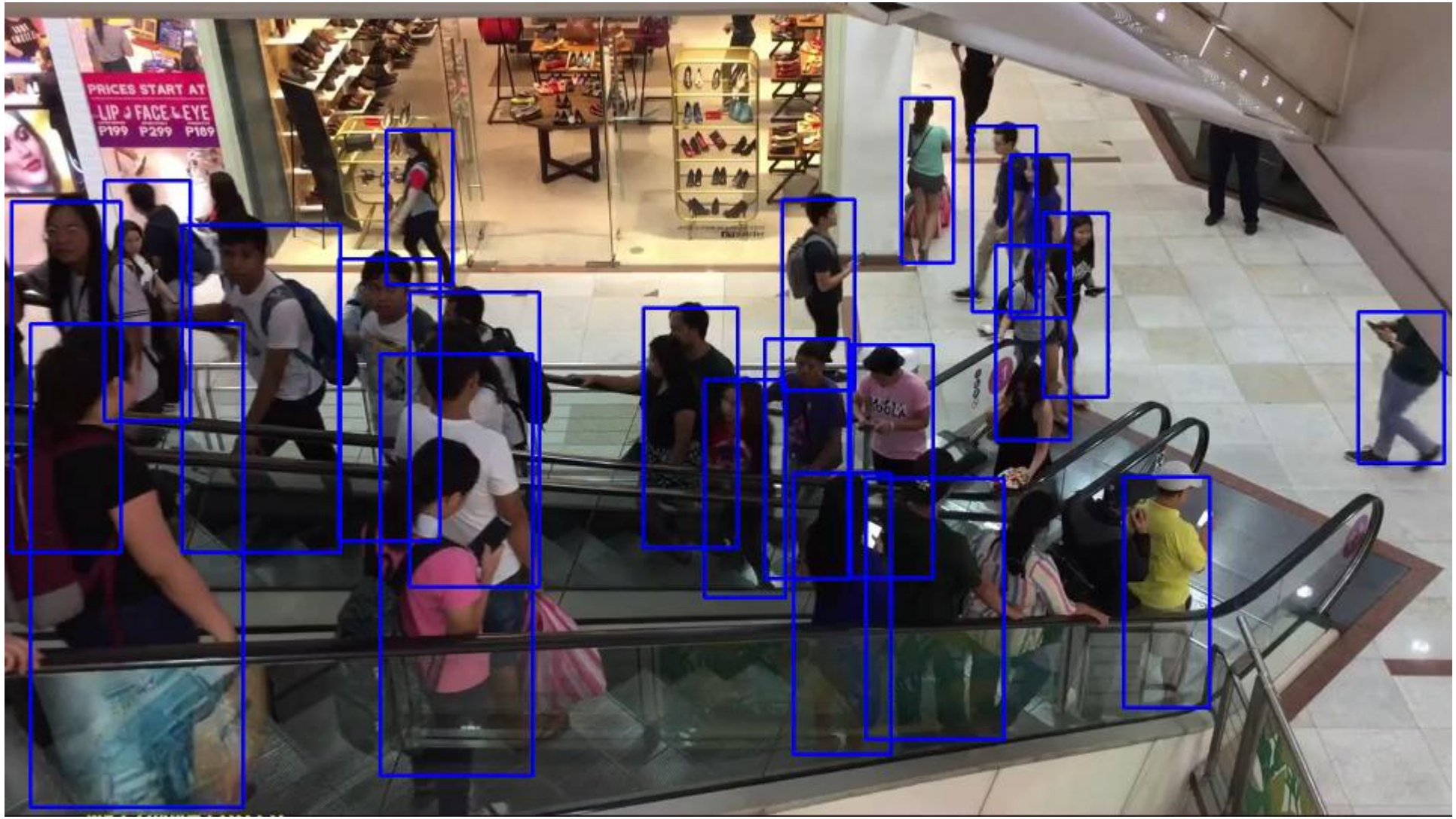
PRICES START AT
LIP
P199
FACE
P299
EYE
P189


PRICES START AT
LIP
FACE
EYE
P199
P299
P189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P189


PRICES START AT
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EYE
P199
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PRICES START AT
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```
--   SSE4.1 supported
--   SSE4.2 supported
--   SSE4a not supported
--   SSSE3 supported
--   SYSCALL supported
--   TBM not supported
--   XOP not supported
--   XSAVE supported
-- Configuring done
-- Generating done
-- Build files have been written to: /home/gtamir/OpenVINO-samples-build
--->
--->
--->  make pedestrian_tracker_demo
[ 11%] Built target gflags_nothreads_static
[ 74%] Built target ie_cpu_extension
[ 77%] Linking CXX executable ../intel64/Release/pedestrian_tracker_demo
[100%] Built target pedestrian_tracker_demo
--->
--->  export models=/opt/intel/computer_vision_sdk/deployment_tools/intel_models/
--->
--->  cd intel64/Release/
--->
--->
```

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Command Prompt

```
C:\Program Files (x86)\IntelSWTools\openvino_2019.3.379\inference_engine\demos\python_demos\instance_segmentation_
demo>    python instance_segmentation_demo.py
           -m instance-segmentation-security-0050.xml
           --label coco_labels.txt
           -l  "C:\Users\gtamir\Documents\Intel\OpenVINO\omz_demos_build\intel64\Release\cpu_extension.dll"
           --no_keep_aspect_ratio
           --delay 1
           -i "C:\Users\gtamir\OneDrive - Intel Corporation\VCP\---VIDEOS--\Demos from Severine\Main_Street_12.mp4
"
```

Summary

- **Demonstrated 4 different demos**
  - **Demos supplied with OpenVINO**
  - **Deep Learning models supplied with the Open Model-Zoo**
- **Using OpenVINO demos and resources is easy..**