

Отчёт по лабораторной 2

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ЧАСТЬ 1

1. Будем производить обработку данного изображения gosl.jpg



2. Производим билд проекта labai0.1
Docker image build -t labai0.1 .

```
Администратор: Командная строка
C:\docker_ssau\Artificial-Intelligence-Lab-2\task_1>docker image build -t labai0.1 .
[+] Building 1442.1s (24/24) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 2.09kB
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [internal] load metadata for docker.io/library/ubuntu:22.04
=> [auth] library/ubuntu:pull token for registry-1.docker.io
=> [ 1/20] FROM docker.io/library/ubuntu:22.04@sha256:e6173d4dc55e76b87c4af8db8821b1feae4146dd47341e4d431118c7dd060a74
=> => resolve docker.io/library/ubuntu:22.04@sha256:e6173d4dc55e76b87c4af8db8821b1feae4146dd47341e4d431118c7dd060a74
=> => sha256:e6173d4dc55e76b87c4af8db8821b1feae4146dd47341e4d431118c7dd060a74 1.13kB / 1.13kB
=> => sha256:e62af41f42b9c9bc9bcd7c7f1735e3c4b3d95b2137be86fd940373471a34c8b0 424B / 424B
=> => sha256:e34e831650c1bb0be9b6f61c6755749cb9ea2053ba91c6da27fded9e080811f 2.30kB / 2.30kB
=> => sha256:29202e855b2021a2d7f92800619ed5f5e8ac402e267cfbb3d29a791feb13c1ee 29.55MB / 29.55MB
=> => extracting sha256:29202e855b2021a2d7f92800619ed5f5e8ac402e267cfbb3d29a791feb13c1ee 1.8s
=> [ 2/20] RUN apt update && apt -y upgrade
=> [ 3/20] RUN mkdir /usr/local/dev
=> [ 4/20] RUN apt install -y curl python3-testresources python3-dev wget gnupg2 software-properties-common
=> [ 5/20] WORKDIR /usr/local/dev/
=> [ 6/20] RUN curl https://bootstrap.pypa.io/get-pip.py -o get-pip.py && python3 get-pip.py
=> [ 7/20] RUN echo ttf-mscorefonts-installer msttcorefonts/accepted-mscorefonts-gula select true | debconf-set-selections
=> [ 8/20] RUN ln -snf /usr/share/zoneinfo/Europe/Samara /etc/localtime && echo Europe/Samara > /etc/timezone
=> [ 9/20] RUN apt -y install libgstreamer1.0-0 gstreamer1.0-plugins-base gstreamer1.0-plugins-good gstreamer1.0-plugins-bad gstreamer1.0-plugins-ugly gstreamer1. 333.4s
=> [10/20] RUN apt -y install ubuntu-restricted-extras libgstreamer1.0-dev libgstreamer-plugins-base1.0-dev libgstreamer-plugins-bad1.0-dev libgstreamer-plugins-b 207.3s
=> [11/20] RUN apt -y install build-essential cmake unzip git pkg-config libgtk2.0-dev libavcodec-dev libavformat-dev libswscale-dev libtbb2 li 188.4s
=> [12/20] RUN apt update
=> [13/20] RUN apt install python3-opencv
=> [14/20] RUN echo ${python3} -c "import cv2 as cv; print(cv.__version__)"
=> [15/20] RUN pip3 install -U numpy
=> [16/20] RUN apt update
=> [17/20] RUN apt install -y qtcreator qtbase5-dev qt5-qmake cmake
=> [18/20] RUN pip3 install -U pyqt5 scipy colour-science scikit-image loguru pandas fast-slic
=> [19/20] RUN pip3 install imageio matplotlib numba oct2py pandas Pillow PyQt5 PyYAML
=> exporting to image
=> => exporting layers
=> => writing image sha256:2288fb48b711444f6cbce600ccbf8de598a927391bb01be8b7100026e14e67e
=> => naming to docker.io/library/labai0.1
C:\docker_ssau\Artificial-Intelligence-Lab-2\task_1>
```

3. Создаём контейнер containervlad

Docker run -dit -v .\data\usr\app\src --name containervlad labai0.1

```
=> => writing image sha256:2288fb48b711444f6cbce600ccbf8de598a927391bb01be8b7100026e14e67e 0.0s
=> => naming to docker.io/library/labai0.1 0.0s

C:\docker_ssau\Artificial-Intelligence-Lab-2\task_1>docker run -dit -v .\data\usr\app\src --name containervlad labai0.1
5a4737561a42e49f685bd2b29ab93118935001e0b95e160531b9f75c4ceefcd0

C:\docker_ssau\Artificial-Intelligence-Lab-2\task_1>
```

4. Копируем файлы: само изображение и скрипт gosling_converter.py

docker cp C:\docker_ssau\Artificial-Intelligence-Lab-2\task_1\gosl.jpg containervlad:/usr/app/src/gosl.jpg

containervlad:/usr/app/src/gosl.jpg

docker cp C:\docker_ssau\Artificial-Intelligence-Lab-

2\task_1\gosling_converter.py

containervlad:/usr/app/src/gosling_converter.py

```
C:\docker_ssau\Artificial-Intelligence-Lab-2\task_1>docker cp C:\docker_ssau\Artificial-Intelligence-Lab-2\task_1\gosl.jpg containervlad:/usr/app/src/gosl.jpg
Successfully copied 126kB to containervlad:/usr/app/src/gosl.jpg
```

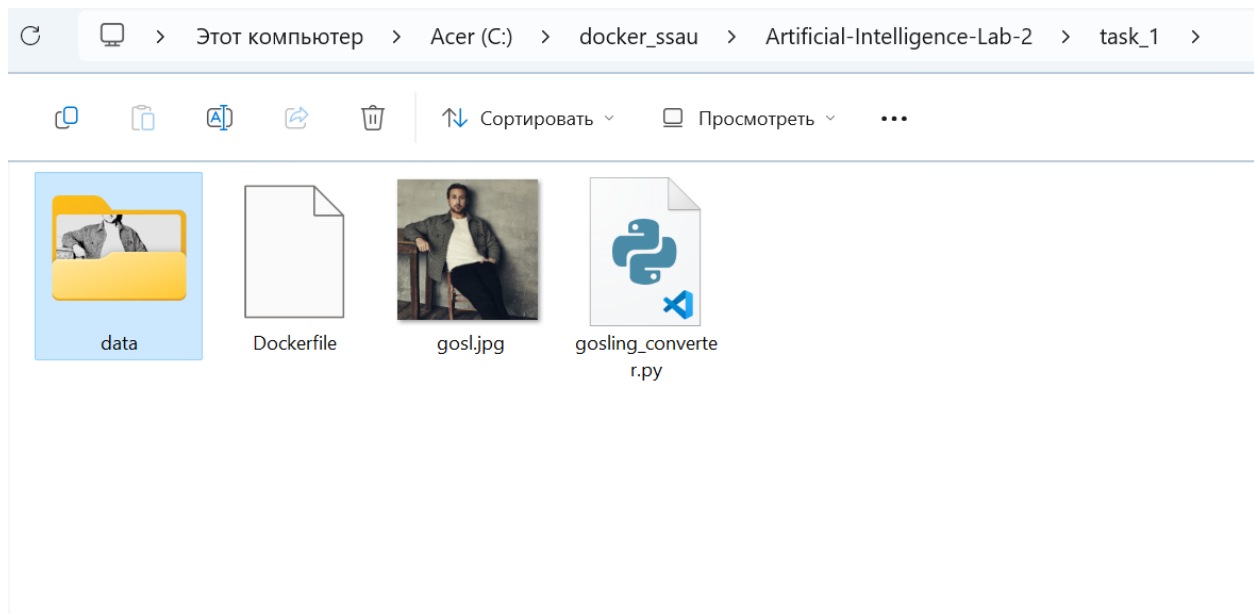
```
C:\docker_ssau\Artificial-Intelligence-Lab-2\task_1>docker cp C:\docker_ssau\Artificial-Intelligence-Lab-2\task_1\gosling_converter.py containervlad:/usr/app/src/gosling_converter.py
Successfully copied 2.56kB to containervlad:/usr/app/src/gosling_converter.py
```

5. Запускаем

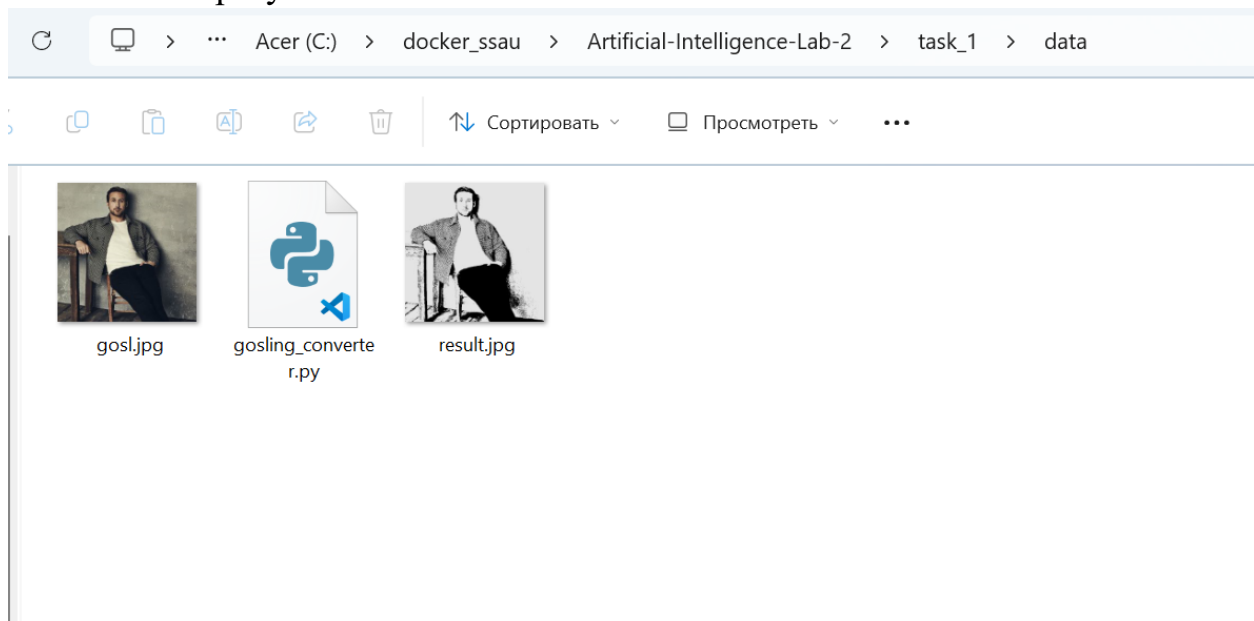
docker exec -it containervlad python3 /usr/app/src/gosling_converter.py

```
C:\docker_ssau\Artificial-Intelligence-Lab-2\task_1>docker exec -it containervlad python3 /usr/app/src/gosling_converter.py
```

6. В папке с проектом появилась папка data



7. В ней лежит результат



8. Вот он крупным планом



ЧАСТЬ 2

1. Билдим проект

```
docker image build -t lab2_2:0.0.1 C:\Users\User\AI2\
```

```
C:\docker_ssau\Artificial-Intelligence-Lab-2\task_2>docker image build -t labai2:0.1 .
[+] Building 2576.7s (9/9) FINISHED                                docker:default
=> [internal] load .dockerignore                                  0.0s
=> => transferring context: 2B                                    0.0s
=> [internal] load build definition from Dockerfile              0.0s
=> => transferring dockerfile: 337B                               0.0s
=> [internal] load metadata for docker.io/pytorch/pytorch:latest 2.9s
=> [auth] pytorch/pytorch:pull token for registry-1.docker.io   0.0s
=> [1/4] FROM docker.io/pytorch/pytorch:latest@sha256:3387e598cb94fc248d82e712a65b10931a990cea3a2e76362ca30d135f565de4 2117.9s
=> => resolve docker.io/pytorch/pytorch:latest@sha256:3387e598cb94fc248d82e712a65b10931a990cea3a2e76362ca30d135f565de4 0.0s
=> => sha256:3387e598cb94fc248d82e712a65b10931a990cea3a2e76362ca30d135f565de4 1.37kB / 1.37kB 0.0s
=> => sha256:96d3e8fcea30561fe213e97aa46543d0daf78d2c59f981ba972964fd9db2539a 4.40kB / 4.40kB 0.0s
=> => sha256:30ecab32a3b65c6ec04c63a65b90e627b49d1297d8793896ed50b656377d8a06 28.58MB / 28.58MB 25.9s
=> => sha256:36bd8c5480de13567d1a20742a03183621f79ece3e60791a9b5f0421aea997cc 15.14MB / 15.14MB 20.5s
=> => sha256:4fc93add8a06dc2e19f91ff5dba9b8e20609c6da30abc2ebf6dbd17d61edbb33 3.44GB / 3.44GB 1950.7s
=> => sha256:4f4fb700ef54461cfa02571ae0db9a0dc1e0cd5577484a6d75e68dc38e8acc1 32B / 32B 20.9s
=> => sha256:613276d556e20f60e60286ee3af7c545857b4d827c7576beb937e87604db6c04 99B / 99B 21.3s
=> => extracting sha256:30ecab32a3b65c6ec04c63a65b90e627b49d1297d8793896ed50b656377d8a06 2.1s
=> => extracting sha256:36bd8c5480de13567d1a20742a03183621f79ece3e60791a9b5f0421aea997cc 1.6s
=> => extracting sha256:4fc93add8a06dc2e19f91ff5dba9b8e20609c6da30abc2ebf6dbd17d61edbb33 160.6s
=> => extracting sha256:4f4fb700ef54461cfa02571ae0db9a0dc1e0cd5577484a6d75e68dc38e8acc1 0.0s
=> => extracting sha256:613276d556e20f60e60286ee3af7c545857b4d827c7576beb937e87604db6c04 0.0s
=> [2/4] RUN apt-get update && apt-get install ffmpeg libsm6 libxext6 -y 343.9s
=> [3/4] RUN pip install numpy opencv-python timm 107.6s
=> [4/4] WORKDIR /usr/app/src 0.0s
=> exporting to image 4.1s
=> => exporting layers 4.1s
=> writing image sha256:5bb1a11bd120343b769711ce7b9bbca17a092a2cafc246f67898eab43d2c6178 0.0s
=> naming to docker.io/library/labai2:0.1 0.0s
```

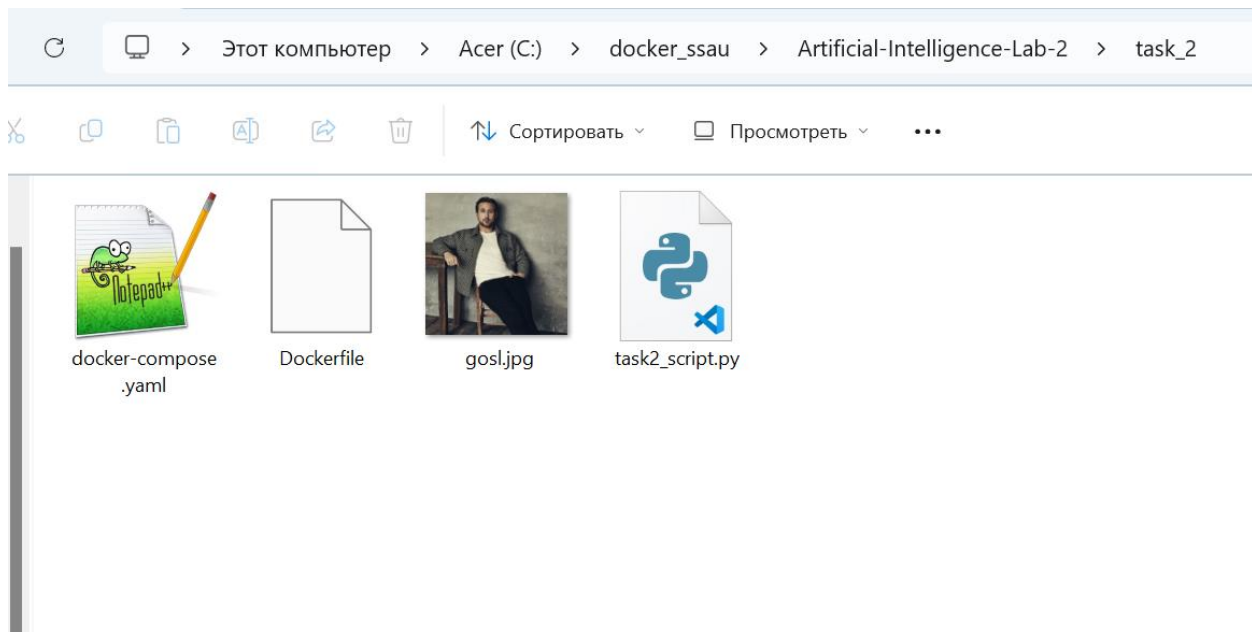
Запускаем проект

```
C:\docker_ssau\Artificial-Intelligence-Lab-2\task_2>docker compose -f docker-compose.yaml up
[+] Building 0.0s (0/0)                                            docker:default
[+] Running 2/2
   ✔ Network pytorch_server_default                               0.1s
   ✔ Container pytorch_server-pythotch-1                         0.1s
Attaching to pytorch_server-pythotch-1
pytorch_server-pythotch-1 | /opt/conda/lib/python3.10/site-packages/torch/hub.py:294: UserWarning: You are about to download and run code from an untrusted repository. In
pytorch_server-pythotch-1 | a future release, this won't be allowed. To add the repository to your trusted list, change the command to {calling_fn}(..., trust_repo=False) and a command prompt will app
pytorch_server-pythotch-1 | ear asking for an explicit confirmation of trust, or load(..., trust_repo=True), which will assume that the prompt is to be answered with 'yes'. You can also use load(...,
pytorch_server-pythotch-1 | trust_repo='check') which will only prompt for confirmation if the repo is not already trusted. This will eventually be the default behaviour
pytorch_server-pythotch-1 | warnings.warn(
pytorch_server-pythotch-1 |   Downloading: "https://github.com/intel-isl/MiDaS/zipball/master" to /root/.cache/torch/hub/master.zip
pytorch_server-pythotch-1 | /opt/conda/lib/python3.10/site-packages/torch/hub.py:294: UserWarning: You are about to download and run code from an untrusted repository. In
pytorch_server-pythotch-1 | a future release, this won't be allowed. To add the repository to your trusted list, change the command to {calling_fn}(..., trust_repo=False) and a command prompt will app
pytorch_server-pythotch-1 | ear asking for an explicit confirmation of trust, or load(..., trust_repo=True), which will assume that the prompt is to be answered with 'yes'. You can also use load(...,
pytorch_server-pythotch-1 | trust_repo='check') which will only prompt for confirmation if the repo is not already trusted. This will eventually be the default behaviour
pytorch_server-pythotch-1 | warnings.warn(
pytorch_server-pythotch-1 |   Downloading: "https://github.com/rwightman/gen-efficientnet-pytorch/zipball/master" to /root/.cache/torch/hub/master.zip
pytorch_server-pythotch-1 | Downloading: "https://github.com/rwightman/pytorch-image-models/releases/download/v0.1-weights/tf_efficientnet_lite3-b733e338.pth" to /root/.ca
pytorch_server-pythotch-1 | che/torch/hub/checkpoints/tf_efficientnet_lite3-b733e338.pth
pytorch_server-pythotch-1 |
```

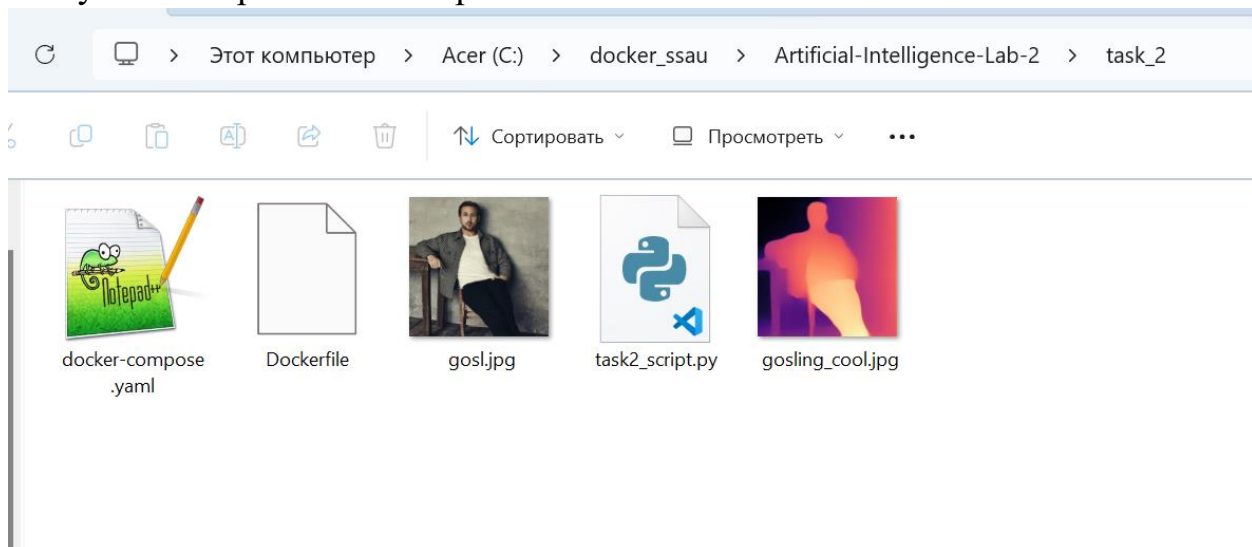
2. Теперь запустим его docker compose -f docker-compose.yaml up

```
C:\docker_ssau\Artificial-Intelligence-Lab-2\task_2>docker compose -f docker-compose.yaml up
[+] Building 0.0s (0/0)                                            docker:default
[+] Running 1/0
   ✔ Container pytorch_server-pythotch-1                         0.0s
Attaching to pytorch_server-pythotch-1
pytorch_server-pythotch-1 | Using cache found in /root/.cache/torch/hub/intel-isl_MiDaS_master
pytorch_server-pythotch-1 | Using cache found in /root/.cache/torch/hub/rwightman_gen-efficientnet-pytorch_master
pytorch_server-pythotch-1 | Using cache found in /root/.cache/torch/hub/intel-isl_MiDaS_master
pytorch_server-pythotch-1 | Loading weights: None
pytorch_server-pythotch-1 | exited with code 0
C:\docker_ssau\Artificial-Intelligence-Lab-2\task_2>
```

3. Что у нас было в папке с проектом



4. Что у нас теперь в папке с проектом



5. Что у нас по итогу получилось

