

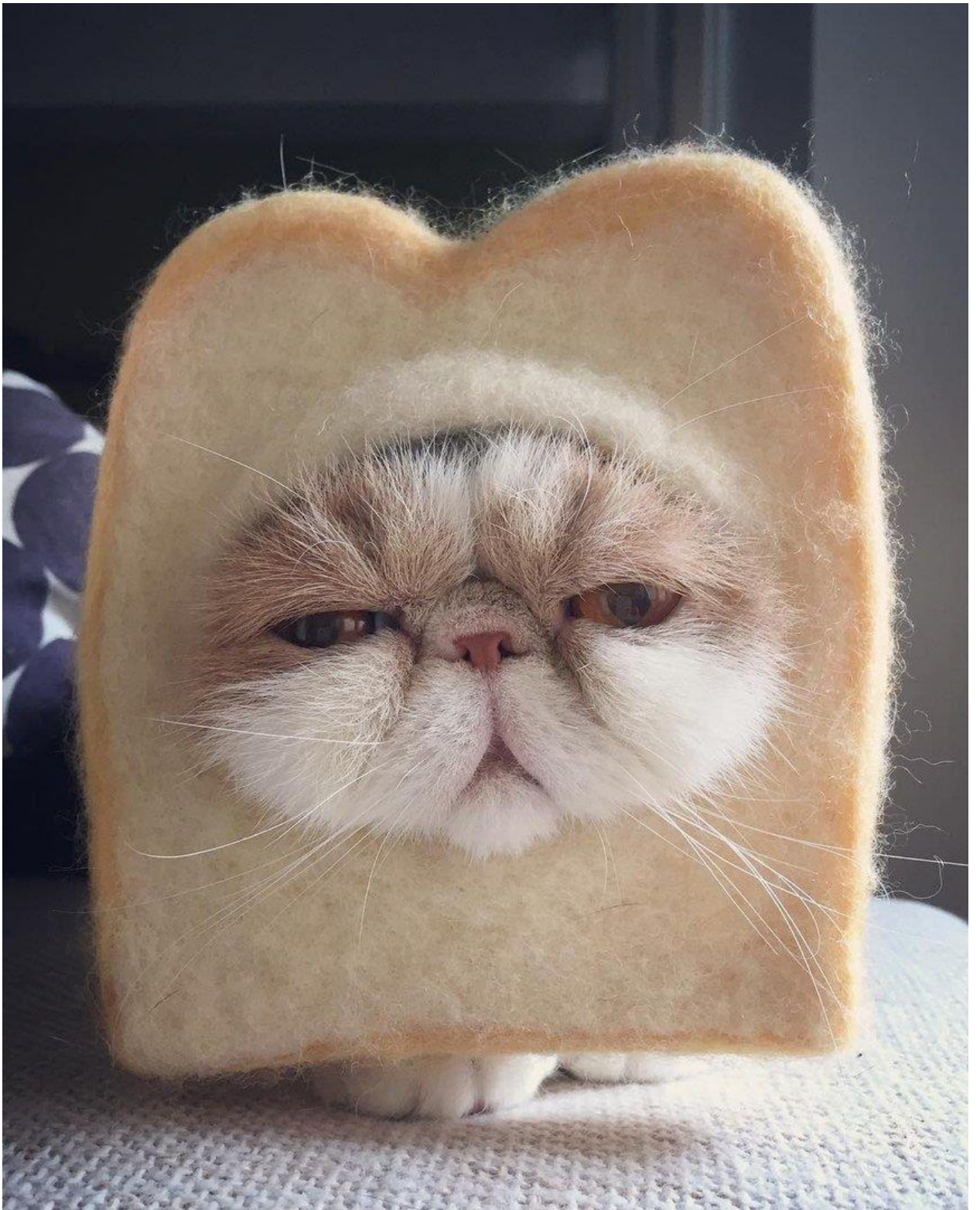
Отчёт по лабораторной 2

Предмет: Технологии ИИ

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ЧАСТЬ 1

В ходе работы обрабатывается изображение cat.jpg



Билд проекта
Docker image build -t catboy:0.1 .

```
C:\artificial_intelligence\lab_2\lab_task_1>Docker image build -t catopreter:0.1 .
[+] Building 2.2s (24/24) FINISHED                                docker:default
=> [internal] load build definition from Dockerfile                0.0s
=> => transferring dockerfile: 2.09kB                             0.0s
=> [internal] load .dockerignore                                  0.0s
=> => transferring context: 2B                                     0.0s
=> [internal] load metadata for docker.io/library/ubuntu:22.04    2.1s
=> [auth] library/ubuntu:pull token for registry-1.docker.io      0.0s
=> [ 1/20] FROM docker.io/library/ubuntu:22.04@sha256:e6173d4dc5e76b87c4af8db8821bfeae4146dd47341e4d43118c7dd060a74 0.0s
=> CACHED [ 2/20] RUN apt update && apt -y upgrade                0.0s
=> CACHED [ 3/20] RUN mkdir /usr/local/Dev                        0.0s
=> CACHED [ 4/20] RUN apt install -y curl python3-testresources python3-dev wget gnupg2 software-properties-common 0.0s
=> CACHED [ 5/20] WORKDIR /usr/local/Dev/                         0.0s
=> CACHED [ 6/20] RUN curl https://bootstrap.pypa.io/get-pip.py -o get-pip.py && python3 get-pip.py 0.0s
=> CACHED [ 7/20] RUN echo ttf-mscorefonts-installer msttcorefonts/accepted-mscorefonts-eula select true | debconf-set-selections 0.0s
=> CACHED [ 8/20] RUN ln -snf /usr/share/zoneinfo/Europe/Samara /etc/localtime && echo Europe/Samara > /etc/timezone 0.0s
=> CACHED [ 9/20] RUN apt -y install libgstreamer1.0-gstreamer1.0-plugins-base gstreamer1.0-plugins-good gstreamer1.0-plugins-bad gstreamer1.0-plugins-ugly gstrea 0.0s
=> CACHED [10/20] RUN apt -y install ubuntu-restricted-extras libgstreamer1.0-dev libgstreamer-plugins-base1.0-dev libgstreamer-plugins-bad1.0-dev libgstreamer-plug 0.0s
=> CACHED [11/20] RUN apt -y install build-essential cmake unzip git pkg-config libgtk2.0-dev libavcodec-dev libavformat-dev libswscale-dev libtbb 0.0s
=> CACHED [12/20] RUN apt update                                  0.0s
=> CACHED [13/20] RUN apt install python3-opencv                  0.0s
=> CACHED [14/20] RUN echo $(python3 -c "import cv2 as cv; print(cv.__version__)") 0.0s
=> CACHED [15/20] RUN pip3 install -U numpy                       0.0s
=> CACHED [16/20] RUN apt update                                  0.0s
=> CACHED [17/20] RUN apt install -y qtcreator qtbase5-dev qt5-qmake cmake 0.0s
=> CACHED [18/20] RUN pip3 install -U pyqt5 scipy colour-science scikit-image loguru pandas fast-slic 0.0s
=> CACHED [19/20] RUN pip3 install imageio matplotlib numba oct2py pandas Pillow PyQt5 PyYAML 0.0s
=> exporting to image                                             0.0s
=> => exporting layers                                           0.0s
=> => writing image sha256:2288fb48b711444f6cbce600ccbf8de598a927391bb01be8b7100026e14e67e 0.0s
=> => naming to docker.io/library/catopreter:0.1                 0.0s
C:\artificial_intelligence\lab_2\lab_task_1>
```

Создаём контейнер catainer и копируем в него файлы
 Docker run -dit -v .\data\usr\app\src --name catainer catboy

docker cp C:\artificial_intelligence\lab_2\lab_task_1\cat.jpg
 catainer:/usr/app/src/cat.jpg

docker cp C:\artificial_intelligence\lab_2\lab_task_1\catopretator.py
 catainer:/usr/app/src/catopretator.py

```
C:\artificial_intelligence\lab_2\lab_task_1>Docker run -dit -v .\data\usr\app\src --name catainer catboy:0.1
eb486bfda3289087120f03eecec03eed1feef85bee3bdbf53085f061e809c8fe
```

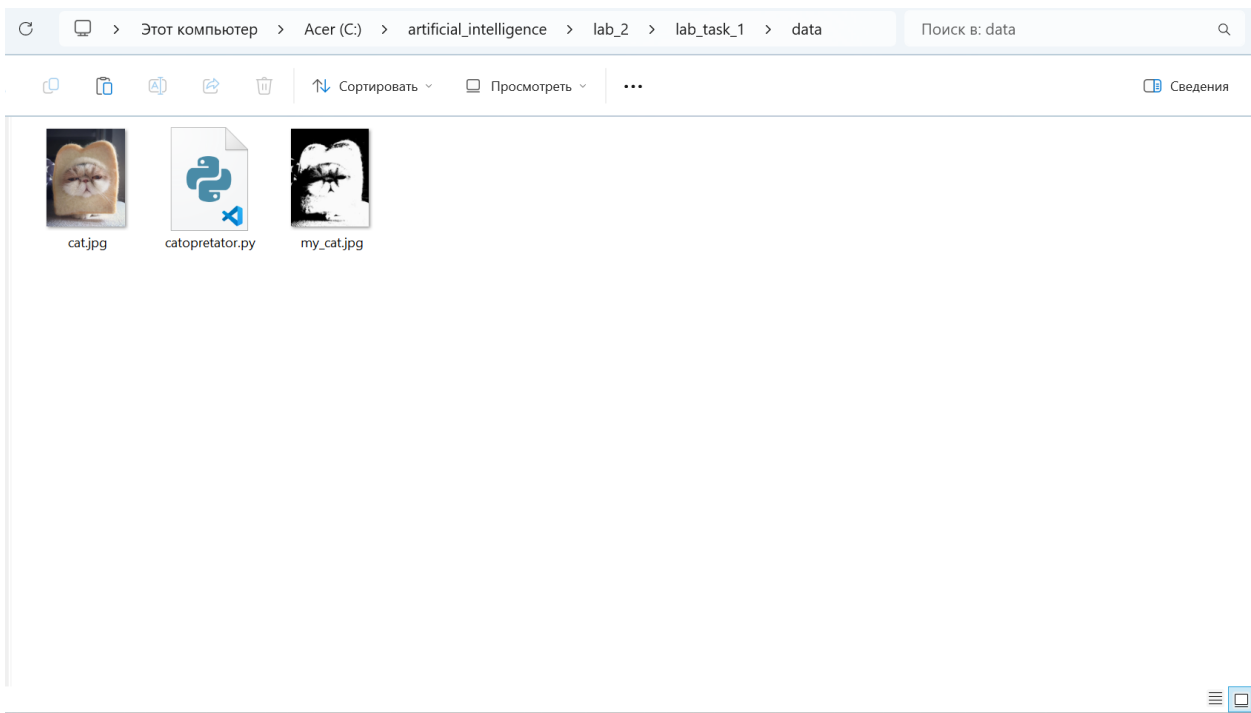
```
C:\artificial_intelligence\lab_2\lab_task_1>docker cp C:\artificial_intelligence\lab_2\lab_task_1\cat.jpg catainer:/usr/app/src/cat.jpg
Successfully copied 167kB to catainer:/usr/app/src/cat.jpg
```

```
C:\artificial_intelligence\lab_2\lab_task_1>docker cp C:\artificial_intelligence\lab_2\lab_task_1\catopretator.py catainer:/usr/app/src/catopretator.py
Successfully copied 2.56kB to catainer:/usr/app/src/catopretator.py
```

Для активации скрипта используется команда
 docker exec -it catainer python3 /usr/app/src/ catopretator.py

```
C:\artificial_intelligence\lab_2\lab_task_1>docker exec -it catainer python3 /usr/app/src/ catopretator.py
```

Как видно, в папке появилась папка data и в ней обработанное
 изображение





ЧАСТЬ 2

Билд проекта

`docker image build -t cat2:0.1 .`

Запускаем проект

```
C:\artificial_intelligence\lab_2\lab_task_2>docker image build -t cat2:0.1 .
[+] Building 1.4s (9/9) FINISHED
=> [internal] load .dockerignore
=> => transferring context: 28
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 337B
=> [internal] load metadata for docker.io/pytorch/pytorch:latest
=> [auth] pytorch/pytorch:pull token for registry-1.docker.io
=> [1/4] FROM docker.io/pytorch/pytorch:latest@sha256:3387e598cb94fc248d82e712a65b18931a990cea3a2e76362ca30d135f565de4
=> CACHED [2/4] RUN apt-get update && apt-get install ffmpeg libsm6 libxext6 -y
=> CACHED [3/4] RUN pip install numpy opencv-python timm
=> CACHED [4/4] WORKDIR /usr/app/src
=> exporting to image
=> exporting layers
=> writing image sha256:5bb1a11bd120343b769711ce7b9bbc1a7a092a2cafc246f67898eab43d2c6178
=> naming to docker.io/library/cat2:0.1
C:\artificial_intelligence\lab_2\lab_task_2>docker compose -f docker-compose.yaml up
```

Запуск yaml

`docker compose -f docker-compose.yaml up`

```
C:\artificial_intelligence\lab_2\lab_task_2>docker compose -f docker-compose.yaml up
[+] Building 0.0s (0/0)
[+] Running 1/1
✔ Container pytorch_server-pytorch-1 Recreated
Attaching to pytorch_server-pytorch-1
pytorch_server-pytorch-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-pytorch-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-pytorch-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-pytorch-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-pytorch-1 | warnings.warn(
pytorch_server-pytorch-1 |   Downloading: "https://github.com/intel-isl/MiDaS/zipball/master" to /root/.cache/torch/hub/master.zip
pytorch_server-pytorch-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-pytorch-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-pytorch-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-pytorch-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-pytorch-1 | warnings.warn(
pytorch_server-pytorch-1 |   Downloading: "https://github.com/rwightman/gen-efficientnet-pytorch/zipball/master" to /root/.cache/torch/hub/master.zip
pytorch_server-pytorch-1 | Downloading: "https://github.com/rwightman/pytorch-image-models/releases/download/v0.1-weights/tf_efficientnet_lite3-b733e338.pth" to /root/.ca
pytorch_server-pytorch-1 | che/torch/hub/checkpoints/tf_efficientnet_lite3-b733e338.pth
pytorch_server-pytorch-1 | Downloading: "https://github.com/isl-org/MiDaS/releases/download/v2_1/midas_v21_small_256.pt" to /root/.cache/torch/hub/checkpoints/midas_v21_s
pytorch_server-pytorch-1 | mall_256.pt
pytorch_server-pytorch-1 | Loading weights: None
pytorch_server-pytorch-1 | 100%|██████████| 81.8M/81.8M [00:35<00:00, 2.42MB/s]
pytorch_server-pytorch-1 | Using cache found in /root/.cache/torch/hub/intel-isl_MiDaS_master
pytorch_server-pytorch-1 exited with code 0
```

Теперь в папке с проектом новое изображение кота

