```
%pip install diffusers
```

```
Collecting diffusers
  Downloading diffusers-0.35.0-py3-none-any.whl.metadata (20 kB)
Requirement already satisfied: importlib_metadata in /usr/lib/python3/dist-packages (from diffusers) (4.6.4)
Requirement already satisfied: filelock in /usr/local/lib/python3.12/dist-packages (from diffusers) (3.19.1)
Requirement already satisfied: huggingface-hub>=0.34.0 in /usr/local/lib/python3.12/dist-packages (from diffusers) (0.34.4)
Requirement already satisfied: numpy in /usr/local/lib/python3.12/dist-packages (from diffusers) (2.0.2)
Requirement already satisfied: regex!=2019.12.17 in /usr/local/lib/python3.12/dist-packages (from diffusers) (2025.7.34)
Requirement already satisfied: requests in /usr/local/lib/python3.12/dist-packages (from diffusers) (2.32.3)
Requirement already satisfied: safetensors>=0.3.1 in /usr/local/lib/python3.12/dist-packages (from diffusers) (0.6.2)
Requirement already satisfied: Pillow in /usr/local/lib/python3.12/dist-packages (from diffusers) (11.3.0)
Requirement already satisfied: fsspec>=2023.5.0 in /usr/local/lib/python3.12/dist-packages (from huggingface-hub>=0.34.0->diffus
Requirement already satisfied: packaging>=20.9 in /usr/local/lib/python3.12/dist-packages (from huggingface-hub>=0.34.0->diffuse
Requirement already satisfied: pyyaml>=5.1 in /usr/local/lib/python3.12/dist-packages (from huggingface-hub>=0.34.0->diffusers)
Requirement already satisfied: tqdm>=4.42.1 in /usr/local/lib/python3.12/dist-packages (from huggingface-hub>=0.34.0->diffusers)
Requirement already satisfied: typing-extensions>=3.7.4.3 in /usr/local/lib/python3.12/dist-packages (from huggingface-hub>=0.34
Requirement already satisfied: hf-xet<2.0.0,>=1.1.3 in /usr/local/lib/python3.12/dist-packages (from huggingface-hub>=0.34.0->di
Requirement already satisfied: charset-normalizer<4,>=2 in /usr/local/lib/python3.12/dist-packages (from requests->diffusers) (3
Requirement already satisfied: idna<4,>=2.5 in /usr/local/lib/python3.12/dist-packages (from requests->diffusers) (3.10)
Requirement already satisfied: urllib3<3,>=1.21.1 in /usr/local/lib/python3.12/dist-packages (from requests->diffusers) (2.5.0)
Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.12/dist-packages (from requests->diffusers) (2025.8.
Downloading diffusers-0.35.0-py3-none-any.whl (4.1 MB)
                                       4.1/4.1 MB 43.7 MB/s eta 0:00:00
Installing collected packages: diffusers
Successfully installed diffusers-0.35.0
```

```python
import torch
from diffusers import PixArtAlphaPipeline
```

```python
model_id = "PixArt-alpha/PixArt-XL-2-512x512"
dtype = torch.float16 if torch.cuda.is_available() else torch.float32
pipe = PixArtAlphaPipeline.from_pretrained(
    model_id,
    torch_dtype=dtype,
)
device = "cuda" if torch.cuda.is_available() else "cpu"
pipe = pipe.to(device)

# Optional: enable faster attention if available

if device == "cuda":
  pipe.enable_model_cpu_offload() # works well on limited VRAM
  pipe.enable_vae_slicing()
```

```
/usr/local/lib/python3.12/dist-packages/huggingface_hub/utils/_auth.py:94: UserWarning:
The secret `HF_TOKEN` does not exist in your Colab secrets.
To authenticate with the Hugging Face Hub, create a token in your settings tab (https://huggingface.co/settings/tokens), set it
You will be able to reuse this secret in all of your notebooks.
Please note that authentication is recommended but still optional to access public models or datasets.
  warnings.warn(
```

model_index.json: 100%   452/452 [00:00<00:00, 60.1kB/s]

Fetching 16 files: 100%   16/16 [05:53<00:00, 74.24s/it]

model.safetensors.index.json: 19.9k/? [00:00<00:00, 578kB/s]

```
prompt = (
    "Ultra-realistic close-up portrait of a young adult human, neutral expression,"
    "natural soft lighting, 85mm lens bokeh, high detail skin, photographic quality"
)
negative_prompt = (
    "blurry, low quality, extra fingers, extra eyes, deformed, text, watermark, logo"
)
```

```
#3) Generate the image

generator = torch.Generator(device=device).manual_seed(42) # set seed for reproducibility
image = pipe(
    prompt=prompt,
    negative_prompt=negative_prompt,
    num_inference_steps=24,
    guidance_scale=4.5,
    height=512,
    width=512,
    generator=generator
).images[0]

#4) Save the result

image.save("face.png")
print("Saved to face.png")
```

```
Some weights of the model checkpoint at /root/.cache/huggingface/hub/models--PixArt-alpha--PixArt-XL-2-512x512/snapshots/50f7021
[caption_projection.y_embedding].
Setting `clean_caption=True` requires the ftfy library but it was not found in your environment. Checkout the instructions on th
installation section: https://github.com/rspeer/python-ftfy/tree/master#installing and follow the ones
that match your environment. Please note that you may need to restart your runtime after installation.

Setting `clean_caption` to False...

Setting `clean_caption=True` requires the ftfy library but it was not found in your environment. Checkout the instructions on th
installation section: https://github.com/rspeer/python-ftfy/tree/master#installing and follow the ones
that match your environment. Please note that you may need to restart your runtime after installation.

Setting `clean_caption` to False...
```

100%   24/24 [09:57<00:00, 23.41s/it]

Saved to face.png