Diffusion-UI

Release 0.4.1

Leszek Hanusz

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CHAPTER

ONE

INTRODUCTION

Diffusion-UI is a web frontend to generate images using latent diffusion models.

Thanks to Stable Diffusion which released their model for free on August 22, 2022, it is now possible to generate amazing images, from text or from another image, for free, on your own computer.

DiffusionUI is available on http://diffusionui.com, but to use the Stable Diffusion model you have to install the Stable Diffusion backend on your own computer.

Absolutely no data is received on our servers when you are using http://diffusionui.com with a local backend and you can even use it offline once the website has been loaded.

1.1 Requirements

- 16GB RAM
- Maxwell-architecture or newer GPU with at least 4GB VRAM

1.2 Reporting Issues and Contributing

Please visit the GitHub repositories for Diffusion-UI (frontend, backend) if you're interested in the current development or want to report issues or send pull requests.

We welcome all kinds of contributions if the coding guidelines are respected. Please check the Contributing file (on frontend, on backend) file to learn how to make a good pull request.

CHAPTER

TWO

FRONTEND

Installing the frontend is not necessary as it is available on http://diffusionui.com but you might want to do it either to make some modifications to the code or to run the website completely offline.

To install the frontend, install node.js, clone this repo and run:

```
npm install
```

Then to get a local web page, run:

```
npm run dev
```

CHAPTER

THREE

BACKENDS

3.1 Automatic1111

3.1.1 Installation

- First install the automatic1111 fork by following the instructions on its GitHub page. You should be able to run its own webui interface by going to http://127.0.0.1:7860
- Optionally run `git checkout master` and `git pull -r` in the *stable-diffusion-webui* folder to upgrade to the latest version
- Add `--no-gradio-queue --cors-allow-origins=http://localhost:5173,https://diffusionui.com` to your commandline arguments used to start the Automatic1111 fork. (In the *webui-user.bat* file on Windows)
- Launch the automatic1111 webui with those arguments (on windows start the *webui.bat* script)
- Go to https://diffusionui.com
- click on the icon to go to the model info tab
- click on the `Reset to default values` button and confirm by clicking Yes.

Warning: The webui should run on the 7860 port. *Running on local URL: http://127.0.0.1:7860/* appearing in the console. It happens that if you restart the webui too soon that the port is changed to 7861. In that case, wait a minute and start again until it's on port 7860

Warning: It does not work with the brave browser by default and potentially some strict adblockers. You'll need to deactivate the brave shield for this page. Note that diffusion-ui does not use tracking of any kind, they just don't like the fact that the backend config is downloaded from http://127.0.0.1:7860/config I guess…

3.2 Diffusion-ui-backend

Warning: This backend is now obsolete and you should instead use the Automatic1111 backend.

3.2.1 Installation

Linux

Windows

- Install conda if it is not already installed
- Create an environment named **dui**:

```
conda create -n dui python=3.10
```

- Activate that environment (You will need to do that every time before running the backend):

```
conda activate dui
```

- You now should have a **(dui)** text in front of your prompt indicating that you are inside that environment.
- Inside this environment, install pytorch with cuda support:

```
conda install pytorch torchvision torchaudio cudatoolkit=11.6 -c pytorch -c conda-forge
```

- Install the diffusionui backend and its dependencies:

```
pip install diffusionui
```

- Download Miniconda
- Install Miniconda. Install for all users. Uncheck "Register Miniconda as the system Python 3.9" unless you want to
- Activate Developer mode
- Open Anaconda Prompt (miniconda3)
- Create an environment named **dui**:

```
conda create -n dui python=3.10
```

- Activate that environment (You will need to do that every time before running the backend):

```
conda activate dui
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- You now should have a **(dui)** text in front of your prompt indicating that you are inside that environment.
- Install pytorch with cuda support:

```
conda install pytorch torchvision torchaudio cudatoolkit=11.6 -c pytorch -c conda-forge
```

- Install the diffusionui backend and its dependencies:

```
pip install diffusionui
```

3.2.2 First Usage

The first time, you have to download the model:

- create an account on https://huggingface.co
- Click on this page to accept the LICENSE
- generate a token in your settings
- login on your console with *huggingface-cli login*
- then download the model with:

Low VRAM (recommended)

High VRAM

```
diffusionui --low-mem --download-model
```

```
diffusionui --download-model
```

3.2.3 Usage

Once the installation has been done, you should have a **diffusionui** executable in the **dui** environment you created.

Every time you need to run the backend, don't forget to activate that environment:

```
conda activate dui
```

You can check the current installed version by typing:

```
diffusionui --version
```

To start the backend, run:

Low VRAM (recommended)

High VRAM

```
diffusionui --low-mem
```

```
diffusionui
```

It should produce an local URL for the gradio interface:

```
Running on local URL:  http://127.0.0.1:7860/
```

Once you have this local URL, congratulations ! You can now visit https://diffusionui.com to access it with the nice interface.

3.2.4 Sharing

It is possible to use Diffusion-UI on your smartphone, tablet or other computer by sharing the backend on your PC.

To share the backend:

- use `--share` to get a public url that can be used from an external device
- optionaly use `--access-code` to specify a required code to access the model

```
diffusionui --low-mem --share --access-code 1234
```

You'll receive something like this:

```
Running on local URL:  http://127.0.0.1:7860/
Running on public URL: https://16141.gradio.app
```

Then, from your smartphone or tablet:

- go to http://diffusionui.com
- open the left panel with the top-left icon, then open the model info tab ()
- Click on the API URL and change it by replacing the hostname by the provided public URL (`https://16141.gradio.app/api/predict` in this example)
- Below, insert the access code if needed

Once you've done this, you can use it on this device. The url and access code is saved in Local Storage in your browser so you need to do this only once.

You can now show this amazing technology to all your friends!