Variational Autoencoders & Missing Values Completion Algorithms GUI

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A graphical user interface (GUI) has been implemented for the project of this thesis, using Python and the **Tkinter** library.

First, browse to the directory **"vaes_gui"** of the thesis project and install the required Python dependencies, by typing:

```
pip install −r depencencies.txt
```

Listing 1: command for installing Python dependencies

To run the GUI from the terminal, type:

```
python vaes_gui.py
```

Listing 2: command for running the GUI

To create an executable file for the GUI (".exe"), which you can run anytime from a Windows environment, type:

```
pip install pyinstaller
pyinstaller vaes_gui.spec
```

Listing 3: command for creating an executable file for the GUI

Then, download all the datasets from the URL in the file **"datasets_urls.txt"** and move them to the newly created **"dist"** folder. Inside, there should be a folder with the name **"vaes_gui"**, which contains the executable file **"vaes_gui.exe"**.
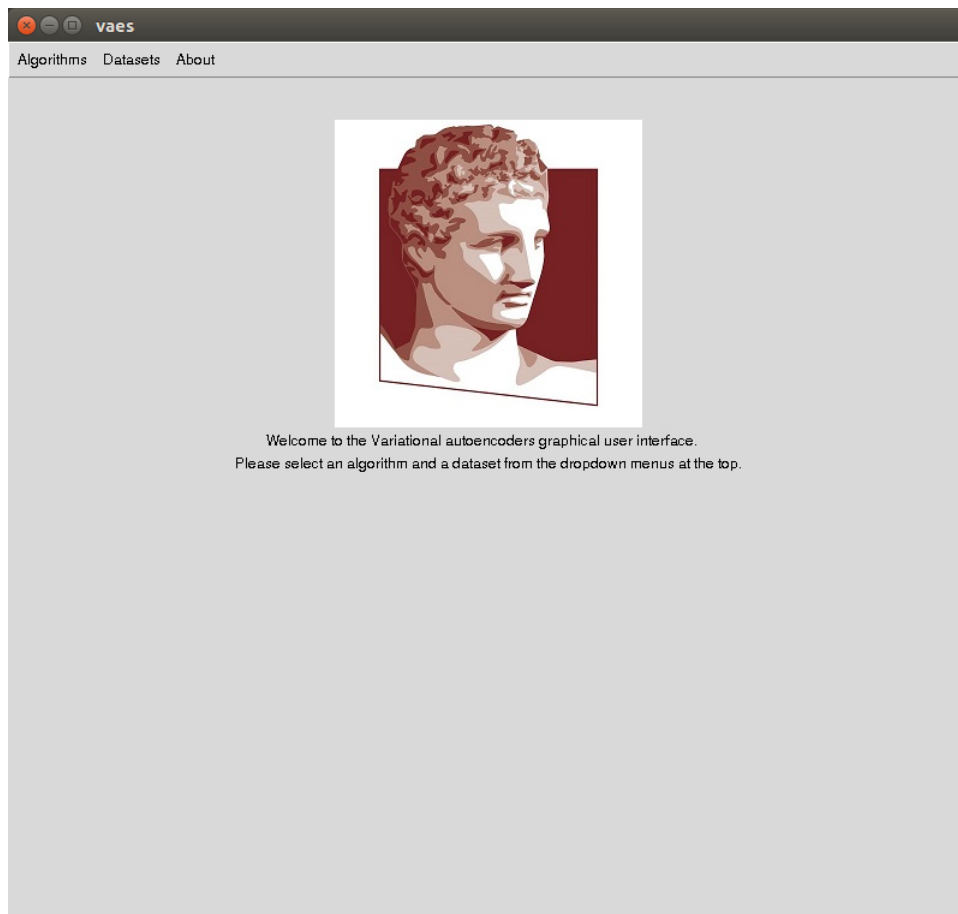
Figure 1: GUI Welcome page.

(a) GUI Algorithms dropdown menu.

(b) GUI Datasets dropdown menu.
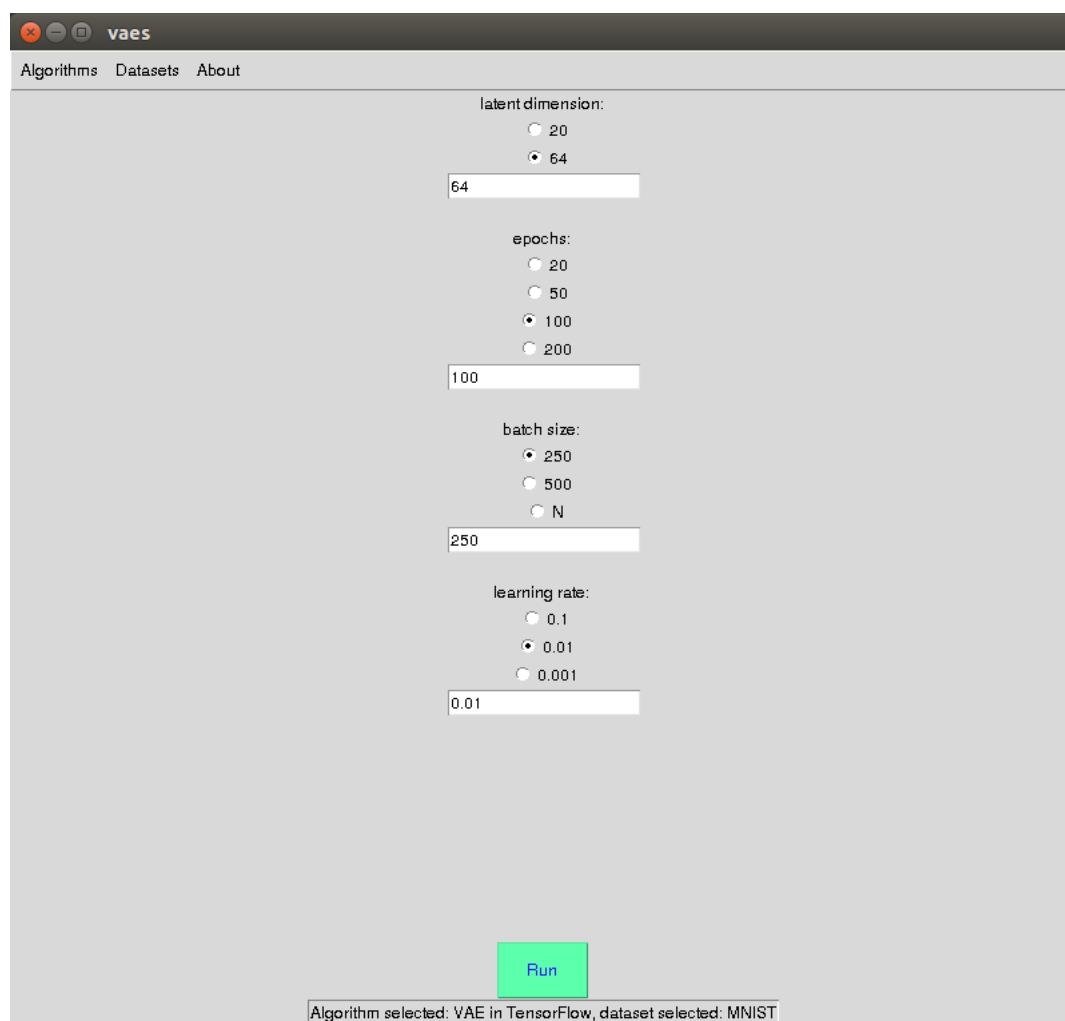
Figure 2: Dropdown menus.

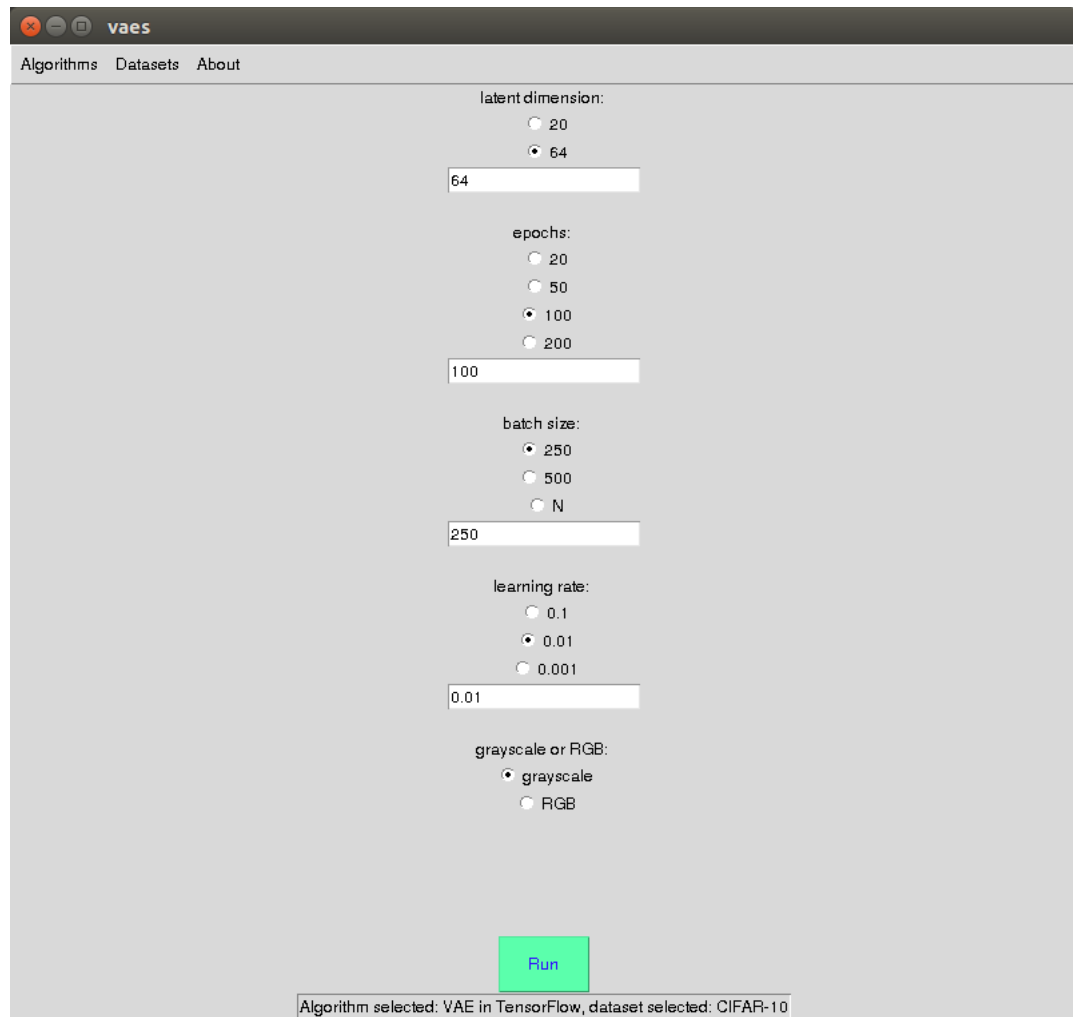Figure 3: GUI VAE in TensorFlow, MNIST dataset.

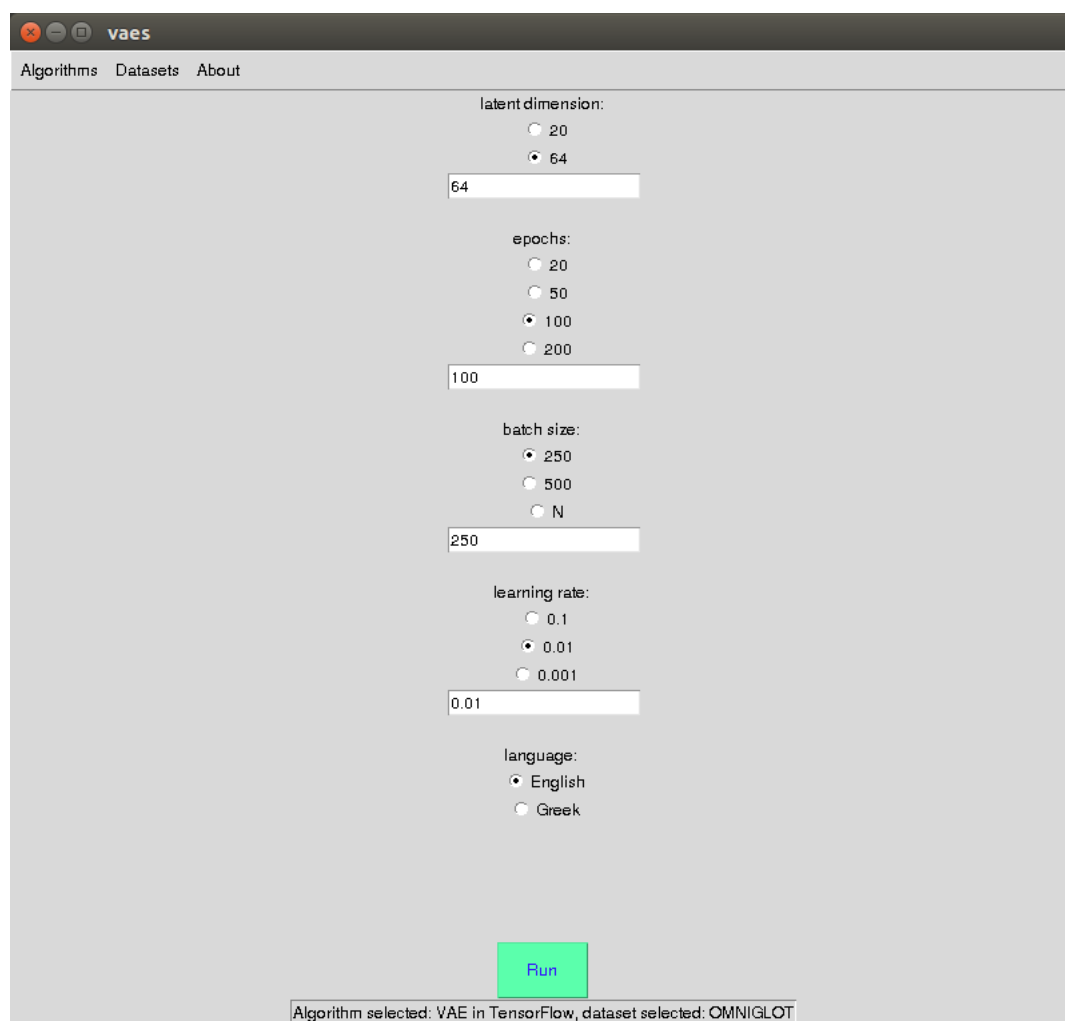Figure 4: GUI VAE in TensorFlow, CIFAR-10 dataset.

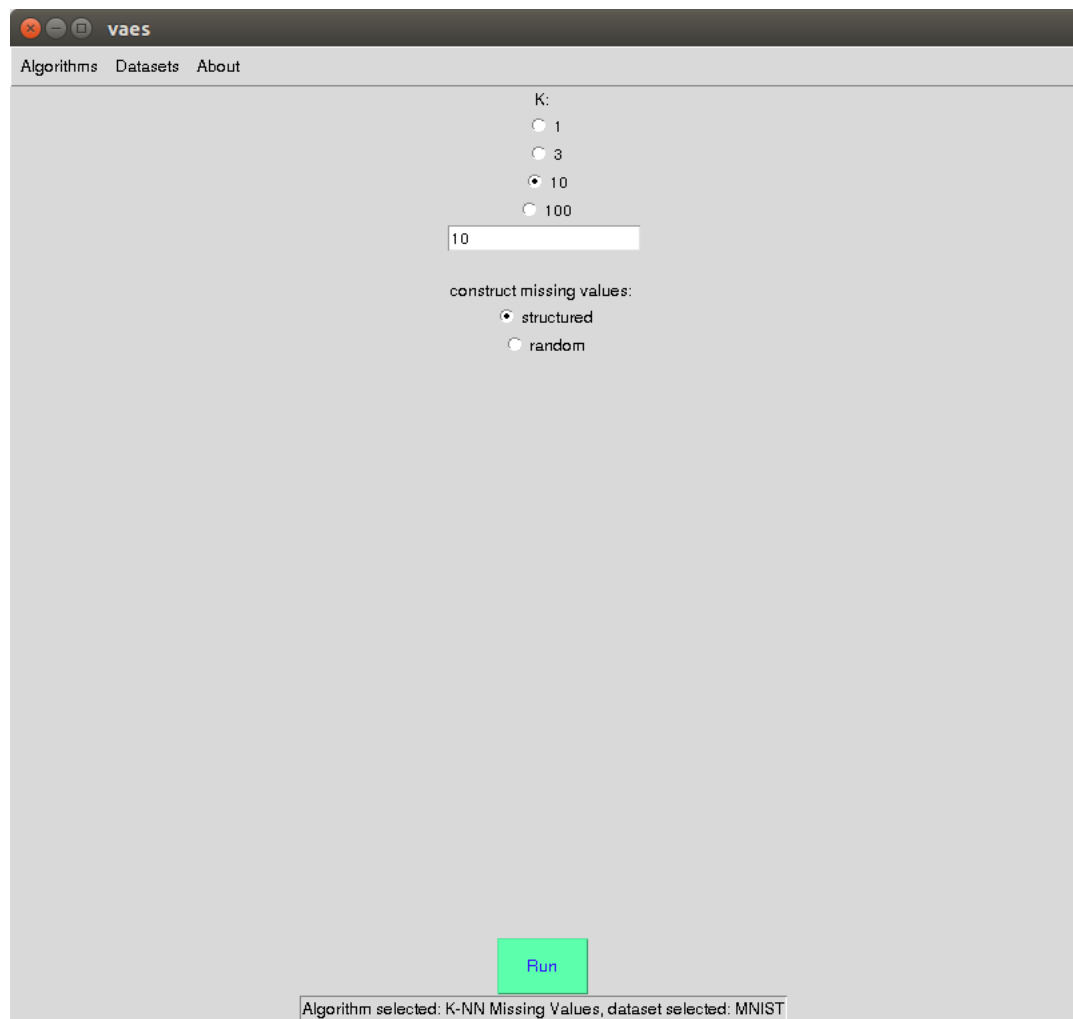Figure 5: GUI VAE in TensorFlow, OMNIGLOT dataset.

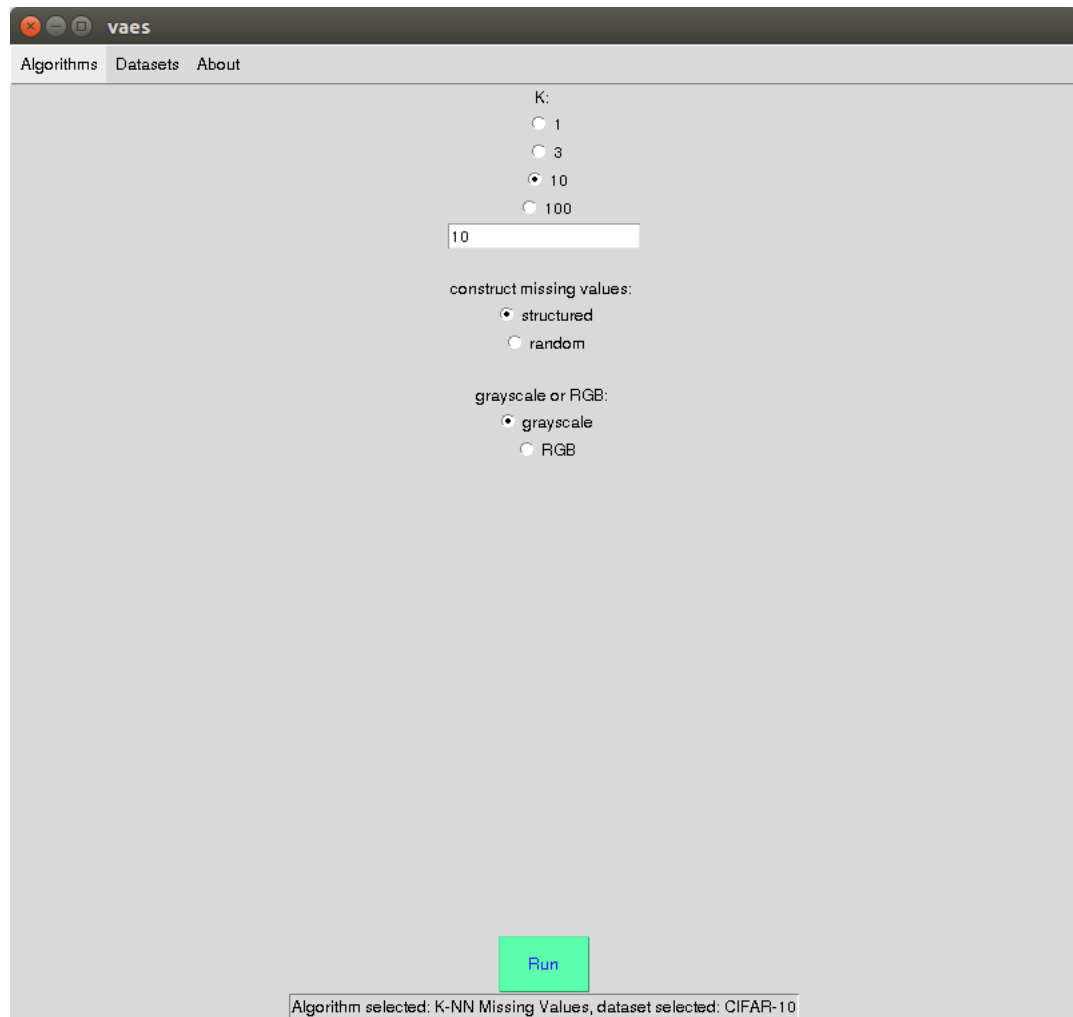Figure 6: GUI K-NN Missing Values algorithm, MNIST dataset.

Figure 7: GUI K-NN Missing Values algorithm, CIFAR-10 dataset.
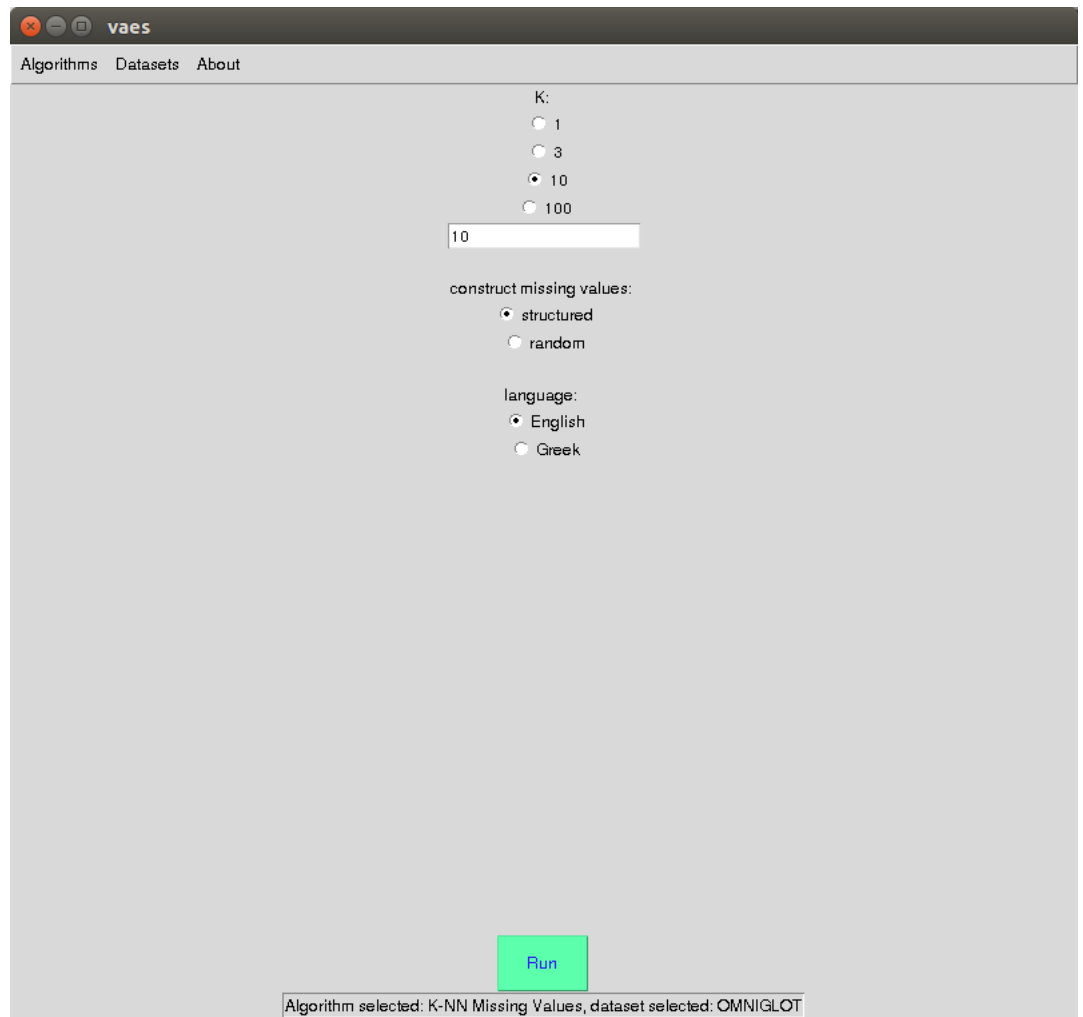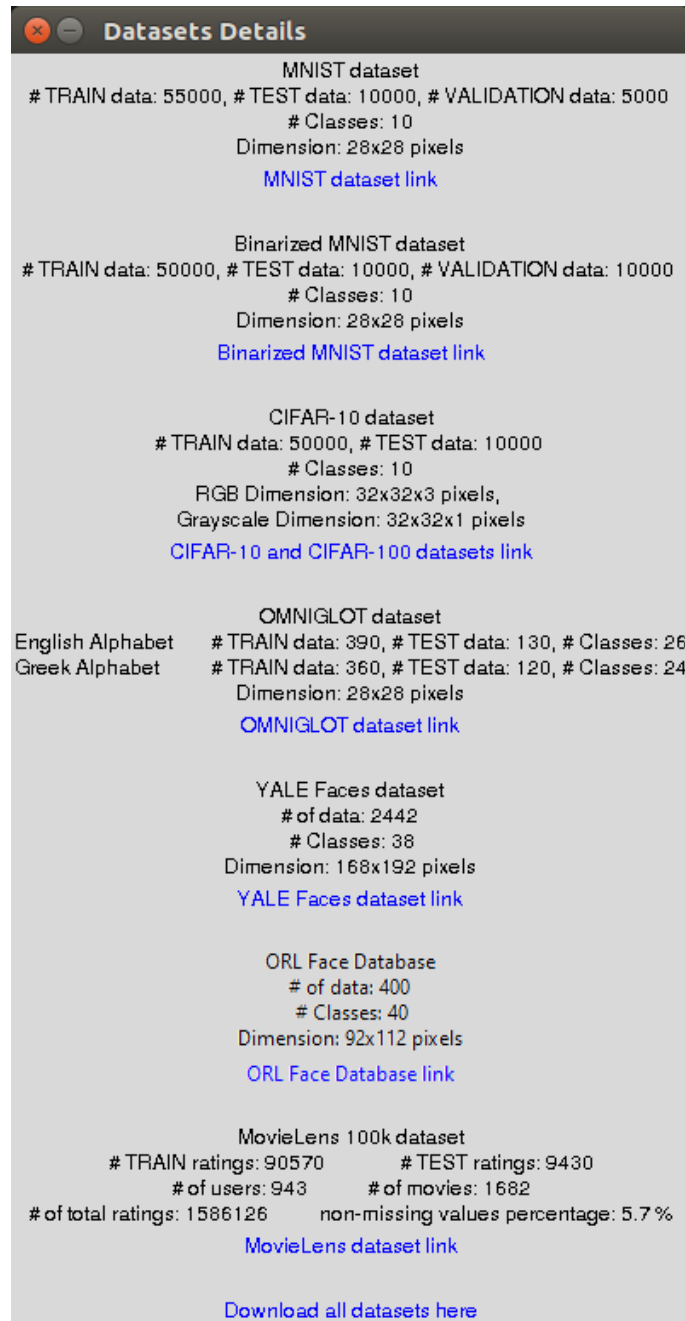
Figure 8: GUI K-NN Missing Values algorithm, OMNIGLOT dataset.
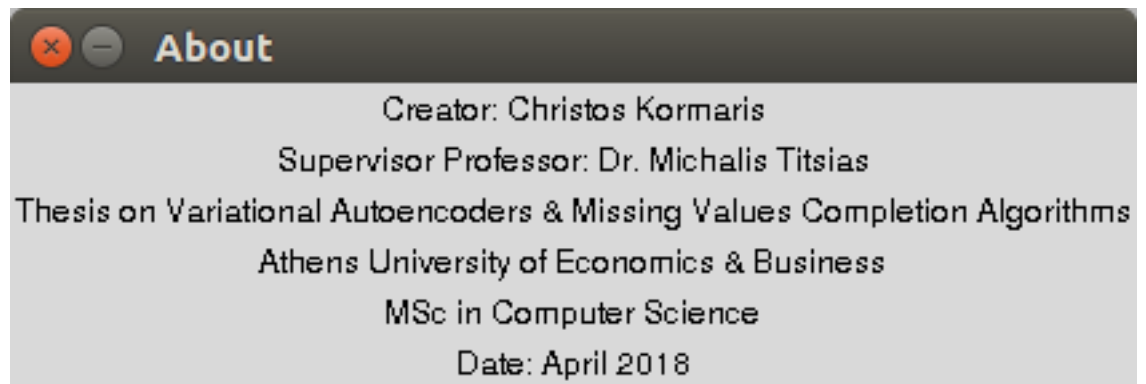
Figure 9:
GUI datasets details.

Figure 10: GUI About.