

Downsampler User Guide

May 19, 2025

Version 0.1

Overview

The function of this program is to downsample .csv files, reducing the number of time points per second. This is done by calculating an average over a number of rows which can be defined by the user. This can be applied to individual files and creates a new file which can be exported to a chosen folder.

A single .csv file can be chosen or if multiple files are needed to be downsampled the whole folder can be selected.

Note: All files in a folder will be downsampled at the same rate, if files need to be sampled at different rates then these need to be split into different folders beforehand.

Availability:

This program is available on Windows, Linux and MacOS (OSX) devices. The executables can be found in the executable folder under Avalonia (Note: Windows Forms contains a older version that would only work on Windows devices).

Contact: Contact: If there are any issues you have you can either report an issue on the Github Repository or contact me personally on my email: JDPRichards@hotmail.co.uk.

Links:

The repository can be found at:
<https://github.com/jdprichards/Downsampler>

The executables folder with the at:
<https://github.com/jdprichards/Downsampler/tree/main/Avalonia/Executables>

Quick Start Guide

Upon opening the main repository you'll come across two folders one called Avalonia which is the current program, built using Avalonia, which works using a cross-platform User Interface (UI) and a Windows Form folder which only works on Windows (Discontinued).

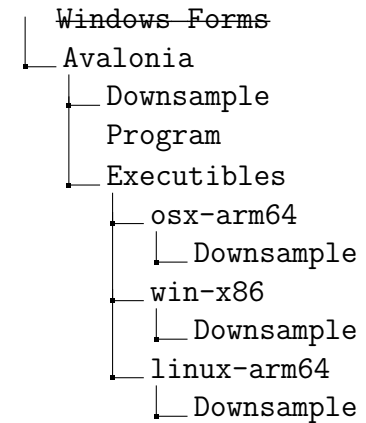
From Avalonia you'll find the folder for the Downsample Program code and a folder containing the executables programs which are split into different folders for the different platforms, e.g. Windows, Linux and MacOS.

- Osx-arm64 for MacOS systems
- Win-86 for Windows systems
- Linux-arm64 for Linux systems

If the executables don't work on your system, please contact me and I will see if I can help.

Once you've found your operating system and downloaded the executable, you can double click on it and run the executable where you'll see the main page of the app which will look different depending on your operating system theme, figures 1 and 2. For the rest of this guide I'll use light mode.

Directory Tree:



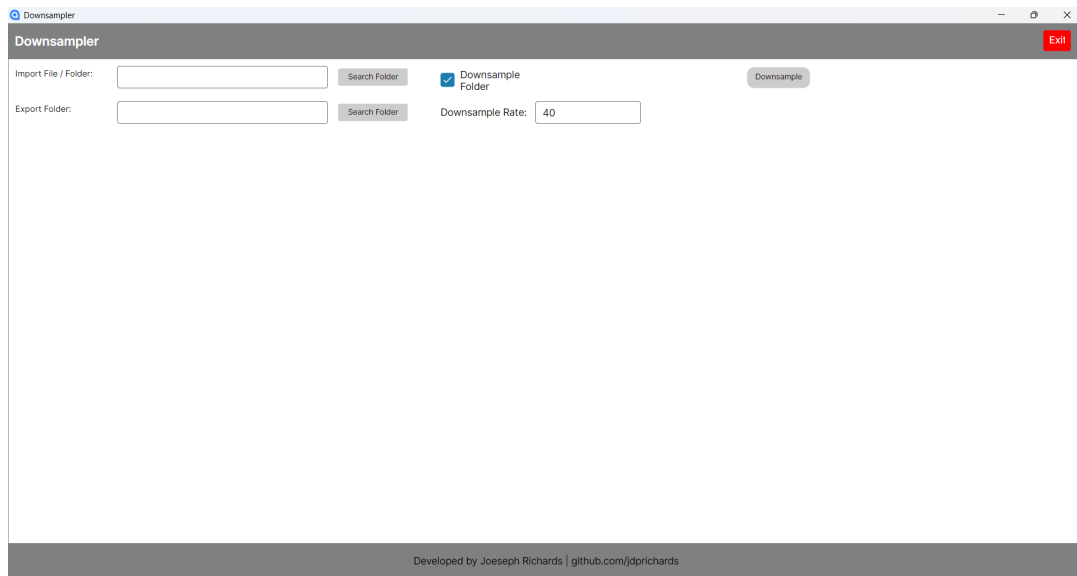


Figure 1: Main Screen (Light Mode)

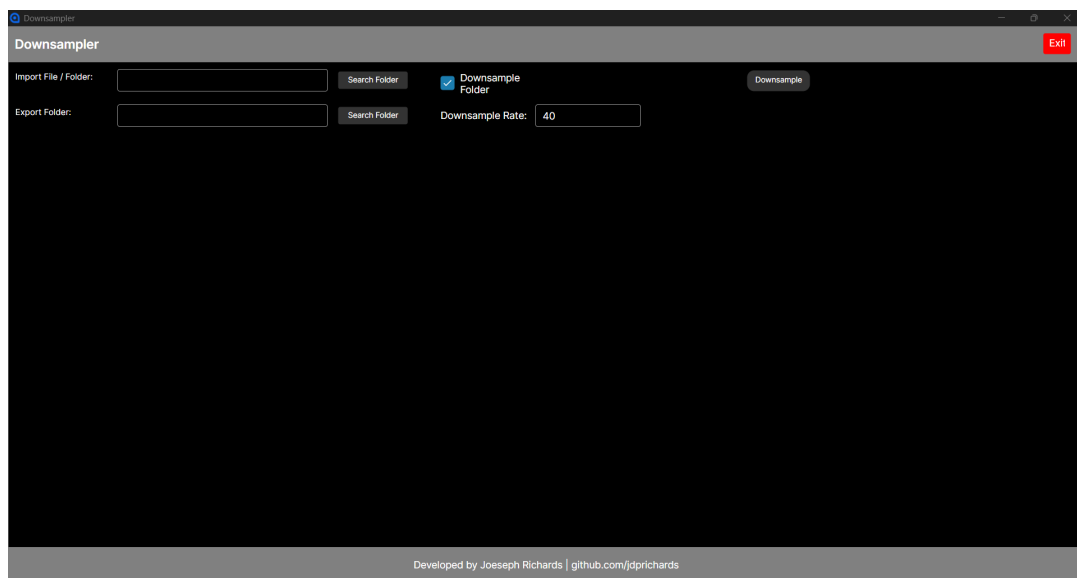


Figure 2: Main Screen (Dark Mode)

How To

This is the only window for this program, everything you need to know is here. The Input File/Folder and Export Folder is where you decide which files you want to import and where you want the downsampled files to be exported, figure 3.

Downsampler

Import File / Folder:

Export Folder:

Figure 3: Import and Export

You can click on the search folder button and you will be taken to your systems file manager, where you can select a directory to import the files and export the downsampled versions.

Warning: Only files you want to be downsampled should be in your imported folder and they should be in .csv file format

If you only want to select a single file, uncheck the downsample folder checkbox seen in figure 4 and check it if you want to switch back to downsampling the entire folder in figure 5.

Import File / Folder:

Export Folder:

☐

Downsample Folder

Downsample Rate:

Figure 4: Import File

Import File / Folder:

Export Folder:

☒

Downsample Folder

Downsample Rate:

Figure 5: Import Folder

The rate at which the program downsamples is chosen in the downsample rate in figure 6. For example, if the downsample rate is 40 as shown, every 40 rows will be averaged and exported.

☒ Downsample Folder

Downsample Rate:

Figure 6: Downsample Rate

Note: This only works for whole number not decimals

Once you've chosen your files and the downsample rate you can simply click the downsample button in figure 7 and your files will be downsampled and exported to your chosen folder.

Downsample

Figure 7: Downsample

You'll then see that the downsample button will deactivate and a progress bar appear which will show you how many files, and how many rows of the current file have been downsampled, figure 8

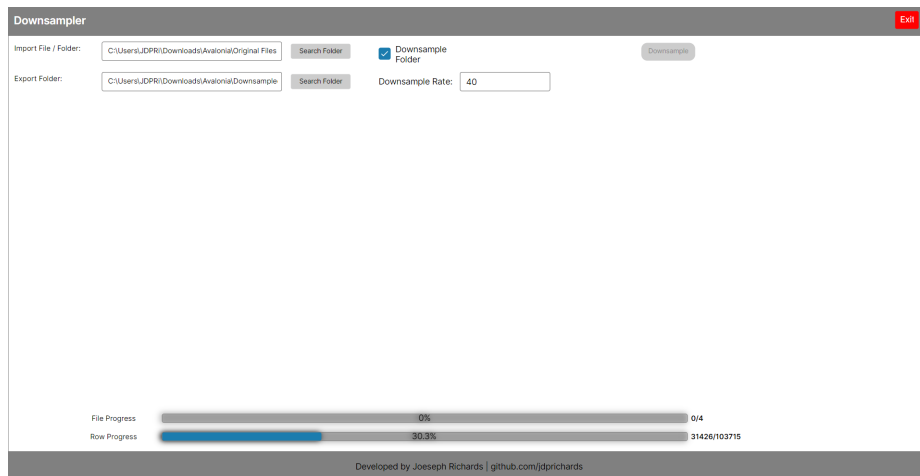


Figure 8: Downsample Progress

Once all of the files have been completely downsampled, the progress bar will show all files and all rows to be complete figure and the downsample button will reactivate, figure 9.

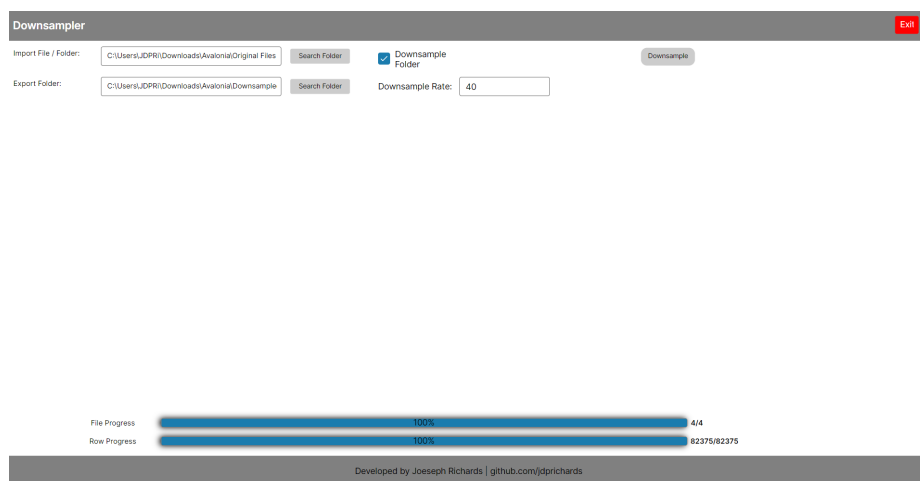


Figure 9: Downsample Complete