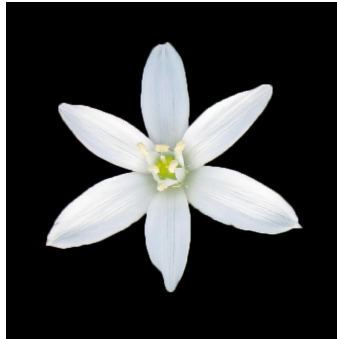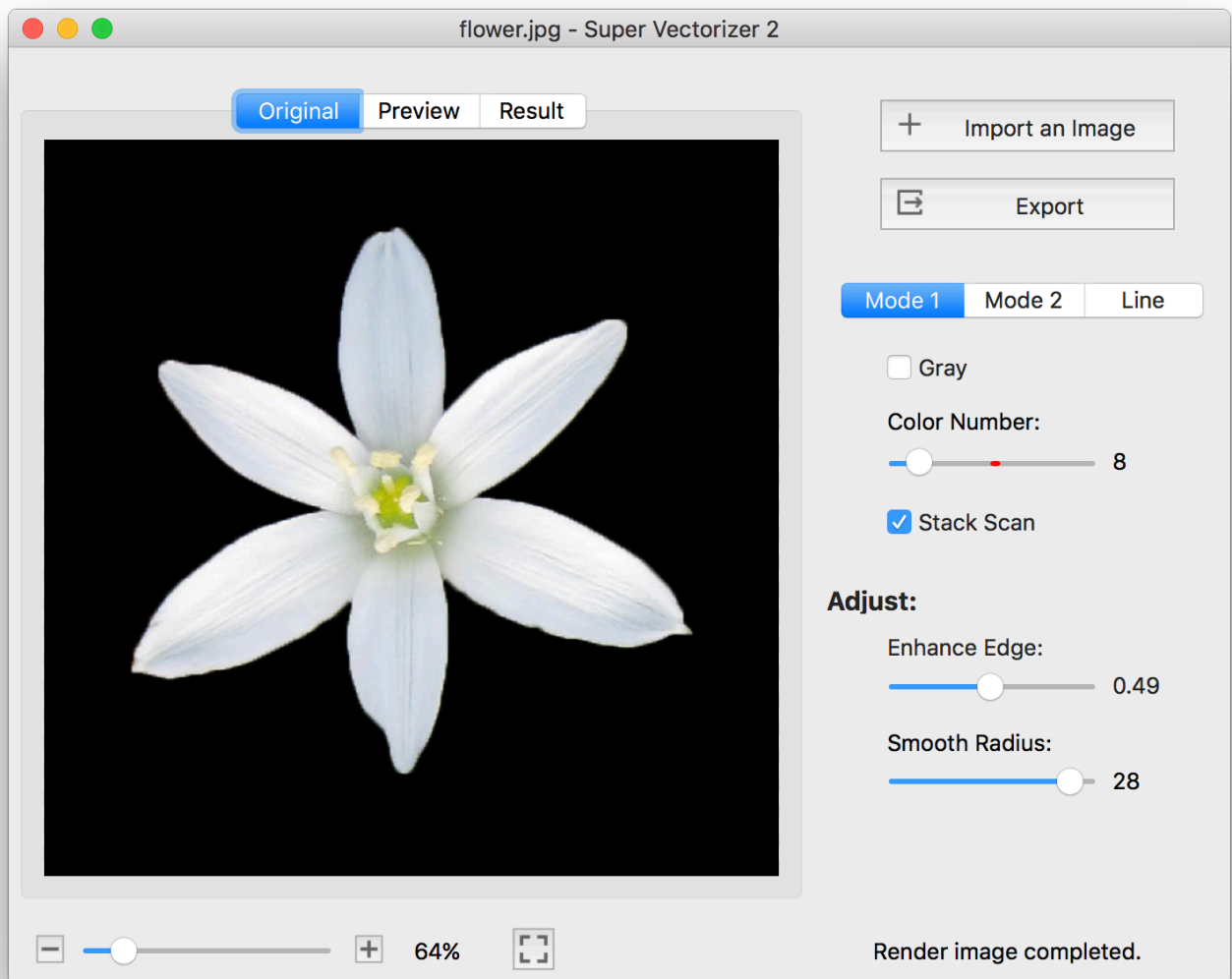# Super Vectorizer 2: Converting an image to outlines

In order to cut the outline of a shape or score lines on the Glowforge you need a vector image containing the lines. If all you have is a bitmap (raster) image such as a photograph, you can use Super Vectorizer 2 to covert it into a vector image.
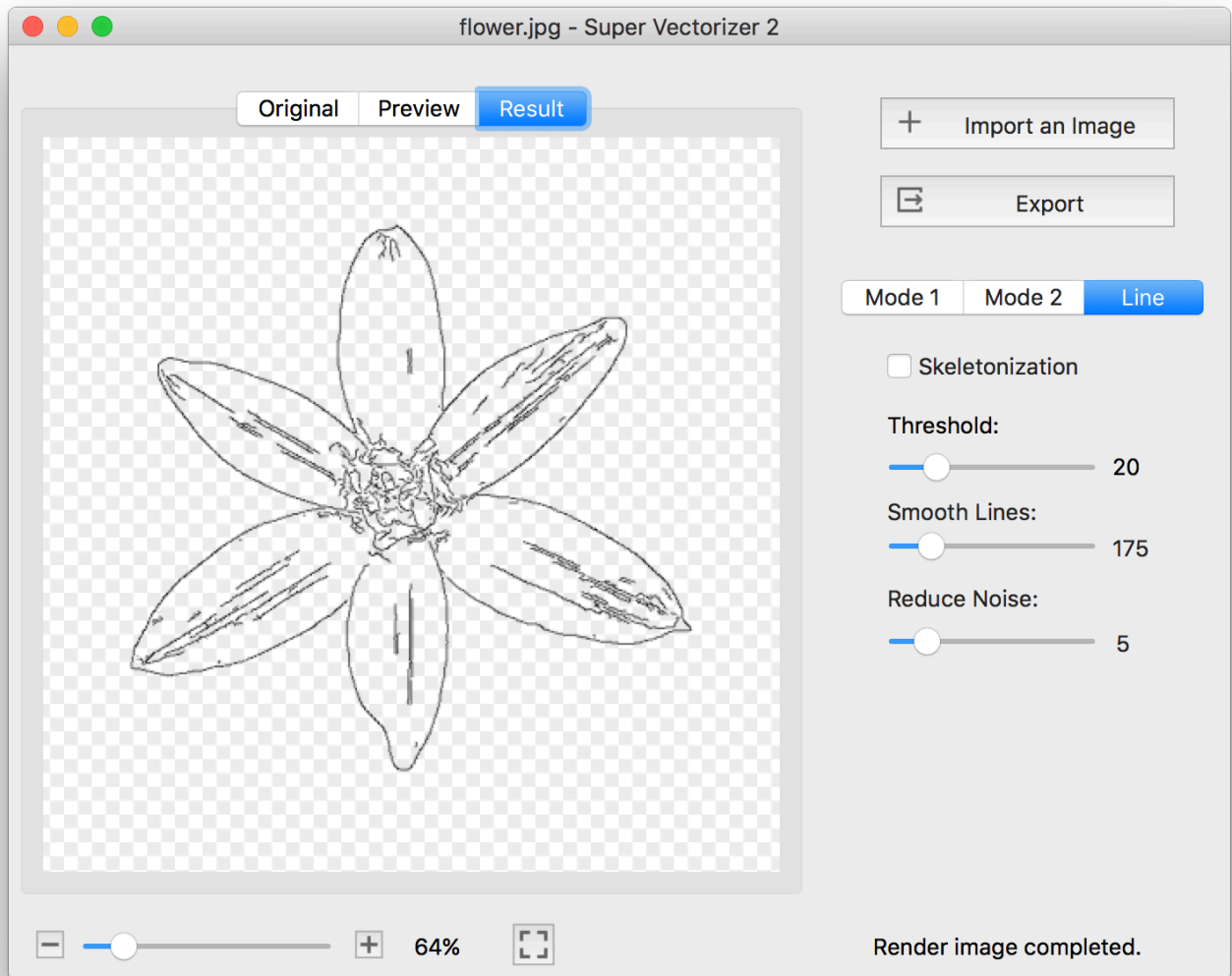
You may want to first edit your photo in a bitmap image editor such as Photoshop, Affinity Photo, Acorn, or Pixelmator to remove any unwanted background or other extraneous details.

Now import the image into Super Vectorizer 2. Either drag the image into the window or click **Import an Image** and choose the file.
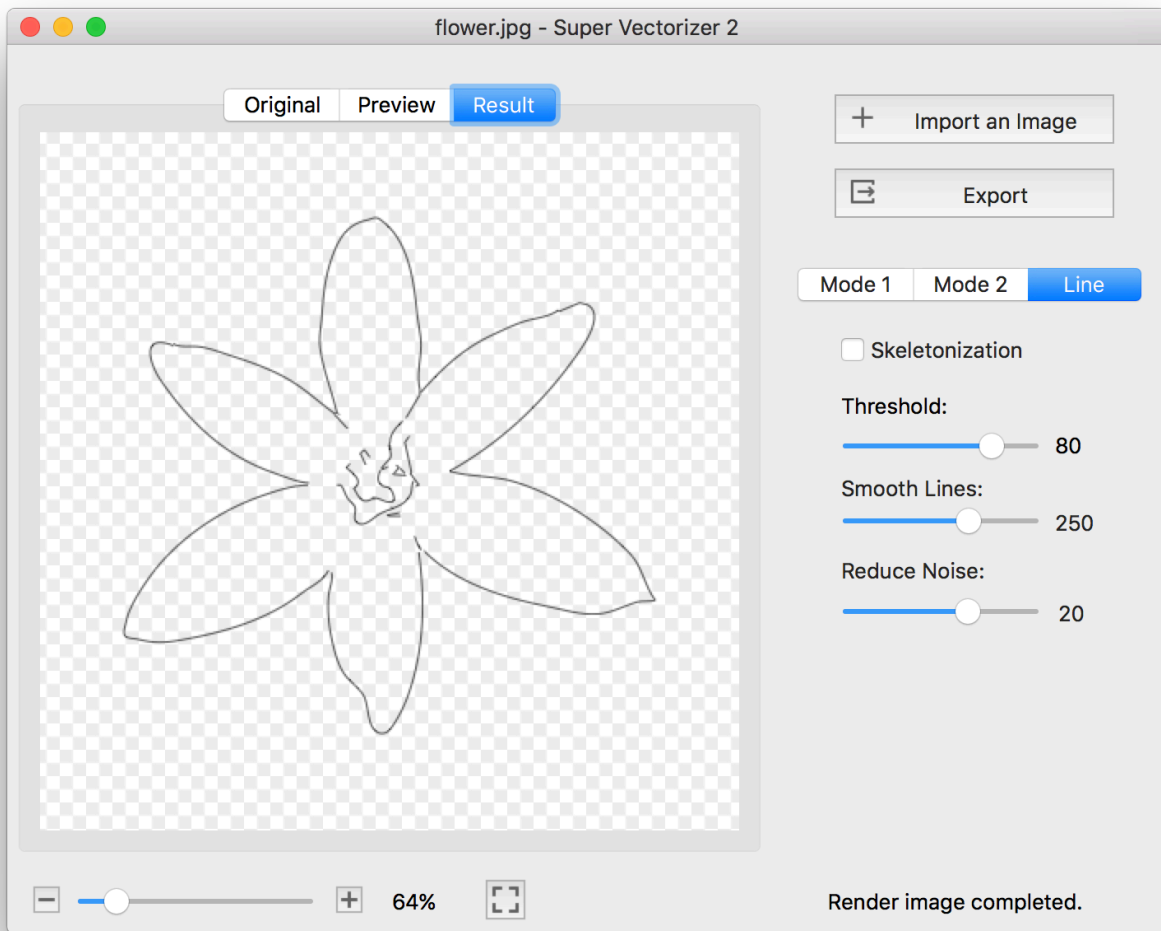
Switch to Line mode to generate outlines. (Modes 1 and 2 are used for tasks other than tracing outlines.) You should now see a black outline on a grey/white checkerboard background. The checkerboard is a standard convention in graphics programs, indicating that the background is transparent. So when you export the vector image, it will consist of black lines on a transparent (not white) background.

The **Threshold** and **Reduce Noise** sliders can be adjusted to reduce the amount of detail included. Super Vectorizer 2 works by looking for the edges between differently colored areas. When the **Threshold** is low, it will draw lines even between areas of very similar colors. When the **Threshold** is high, it will only draw a line where there is a more stark contrast. So a low **Threshold** results in more lines and a high **Threshold** results in fewer lines. The **Reduce Noise** setting runs a filter to smooth out the image before the conversion. The higher you set the **Reduce Noise** setting, the fewer short lines you'll end up with in the result.

Sometimes you end up with jagged edges on the lines, particularly if you begin with a low resolution bitmap. The **Smooth Lines** option will smooth out the jaggies, but it also changes the curvature of the lines somewhat.

Here you can see how raising the **Threshold** has eliminated the lines running along the length of the petals. The **Reduce Noise** setting has also been increased, which removes some of the smaller details. The **Smooth Lines** setting has been used to simplify the petal outlines, straightening out some wavy areas.

Super Vectorizer 2 can export to SVG, PDF, Illustrator (ai), or DXF formats. The SVG format is recommended if you're planning to import the result directly into the Glowforge interface. But if you're planning to open the result in a drawing program to edit it further, you should be sure to choose a format supported by the software you're using.