# Gaussian Splatting: online and local

> This is an experiment in progress. **Current status:** We've succeeded in fully generating the splat from the Blender interface, on Windows. See option 1 Sky Splat below.

Gaussian splatting offers an interesting alternative to photogrammetry for specific use cases, particularly where real-time rendering, photorealistic results, and the ability to capture reflective and transparent surfaces are necessary. There are lots of online options for Gaussian splatting, both paid and unpaid. Kiri Engine seems to be a very complete suite and now has the option **to make meshes out of splats**, for use in for instance Blender in the paid version.

If you don't want to rely on external systems, you can make Gaussian splats (and photogrammetry) yourself on a somewhat beefy computer. The main difference between splats and photogrammetry is that splats make point clouds, no meshes. This makes the renders lighter but harder to manipulate. Also see the Tested video for this discussion.

> For all online platforms (paid or unpaid), please be aware of your data and privacy!

## Gaussian Splatting locally 1: with Sky Splat

Full workflow from video to splat runs from within Blender, uses the Colmap tool for making the splats. Tried on Windows.

https://www.youtube.com/embed/iO48fxcsAys

Additional notes to the video above:

Install the skysplat plugin. Plugin appears in the plugin bar on the right (press N).

Tab 1: open video. This will extract stills from the video.

Tab 2: Colmap. First under Colmap settings, enter the location of the Colmap folder (Colmap.exe in the Bin map). Then:

- Click Load colmap model,
- Manually rotate the point cloud upright,
- Click Export transformed model, (and Export camera if you want to)
- Click Prepare Brush Dataset

Tab 3: run brush training. When opening the brush training on Windows, **this only works when Blender is opened with Administrator rights**. If it's not this step will result in an error, or hangs on starting the training.

# 2: with LichtFeld

Open source splatting tool, not yet tested

https://lichtfeld.io/

https://github.com/MrNeRF/LichtFeld-Studio

LichtFeld needs a more detailed dataset than 'just' the images, it requires "undistorted images + pointcloud + camera locations". The pointcloud and camera locations can be generated using the Colmap process above, or from Reality Scan.

# 3: with PostShot (tried first, no longer free)

> March 2026 Update: Can't export to .ply in the free version of Postshot anymore...

Workflow in Postshot:

- Install Postshot from https://www.jawset.com/
- Make a video of the object or space. You can import multiple videos in the software, taking all videos with the same camera will have better results.
- Drag the videos into Postshot
- Render. Postshot mainly runs on GPU. The render below (50 sec video) took about 20 minutes.
- After rendering you can crop the image to exclude all the fuzzy blobs. For this look under Paramters - Edit in the menu on the right
- After rendering you can export to .ply
- To import to different software you will need a plugin

There are plugins for

- After Effects (not tested here)
- Unreal (paid plugin, not tested here)
- Blender (lower resolution, slightly more abstract results).

- Unity (not tested here)

Below: the same chair model in Postshot and Blender

**Postshot**

**.ply in Blender**

## Compared to local photogrammetry (RealityCapture)

We've used the same source video for a render in RealityCapture. This render took about three minutes and shows one of the problems with photogrammetry: shiny objects become invisible. You can fix this by using a polarizing filter over your lens.

In RealityCapture

.obj imported in Blender

# Full workflow: filming->After Effects->Reality Scan->Postshot->Octane (Cinema4D)

This vid has a full workflow with great tips on every step. After effects is used for extracting photos from the video, Reality scan for aligning the photos, Postshot for generating the splats, and Octane for rendering them in Cinema4D.

https://www.youtube.com/embed/OzUxL_UDMTk

Re-lighting the scene starts here: https://www.youtube.com/watch?v=OzUxL_UDMTk&t=3436s

# Thoughts on using Gaussian Splatting

As long as Gaussian splatting does not easily convert to meshes, it's use in live 3d engines might be limited. It might be more applicable to pre-rendered applications, where you have can re-edit the camera from the original recording. Change angles, change camera movement, etc. With the newer options to change lighting this will become even more relevant.

# More Splatting stuff

## Turning a Gaussian Splat into a game

Playcanvas is an open-source online splat viewer. It can clearly do more than just view them, as you can walk through them as if it's a game environment. And of course: you can turn it into a game: https://blog.playcanvas.com/turning-a-gaussian-splat-into-a-videogame

## Editing splats with SplatShop

Open source, with VR editor.

Edit splats, remove parts, move parts, clone parts, etc.

https://github.com/m-schuetz/Splatshop

## Re-lighting Splats

Apparent you can re-light Splatted scenes. One option menioned is in the Octane rendering engine, another is using a UE5-plugin called Volinga

https://www.youtube.com/embed/O9nL8DOyroI

## Re-lighting in Blender

Using the Kiri Engine plugin from here: https://github.com/Kiri-Innovation/3dgs-render-blender-addon

Manual and quick guides for Kiri Engine: https://www.kiriengine.app/blender-addon/3dgs-render

## Various tutorials on Gaussian Splatting

https://www.youtube.com/embed/kZ5GHG0pb-E

https://www.youtube.com/embed/Xn4h0vJ-wYQ

importing .ply gaussian splat in Blender

https://www.youtube.com/embed/yKz7OfomyCo

https://www.youtube.com/embed/ERuRMOVO58Q?t=668s

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