

▼ Metrics
57.56 (17.37 ms)
VSync On





Secutflow

Hazard

Risk



Körper nicht über die Schutzhaube hinaus lassen



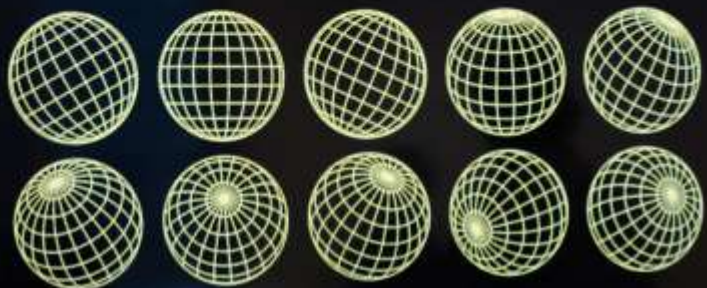


Photoreal



Interactivity

360 Video Tutorial



HOOFDINGANG
DUOPLEIN 13-43
VIA TRAP





3D Gaussian Splatting for Real-Time Radiance Field Rendering

SIGGRAPH 2023

(ACM Transactions on Graphics)

Bernhard Kerbl*^{1,2}

Georgios Kopanas*^{1,2}

Thomas Leimkühler³

George Drettakis^{1,2}

* Denotes equal contribution

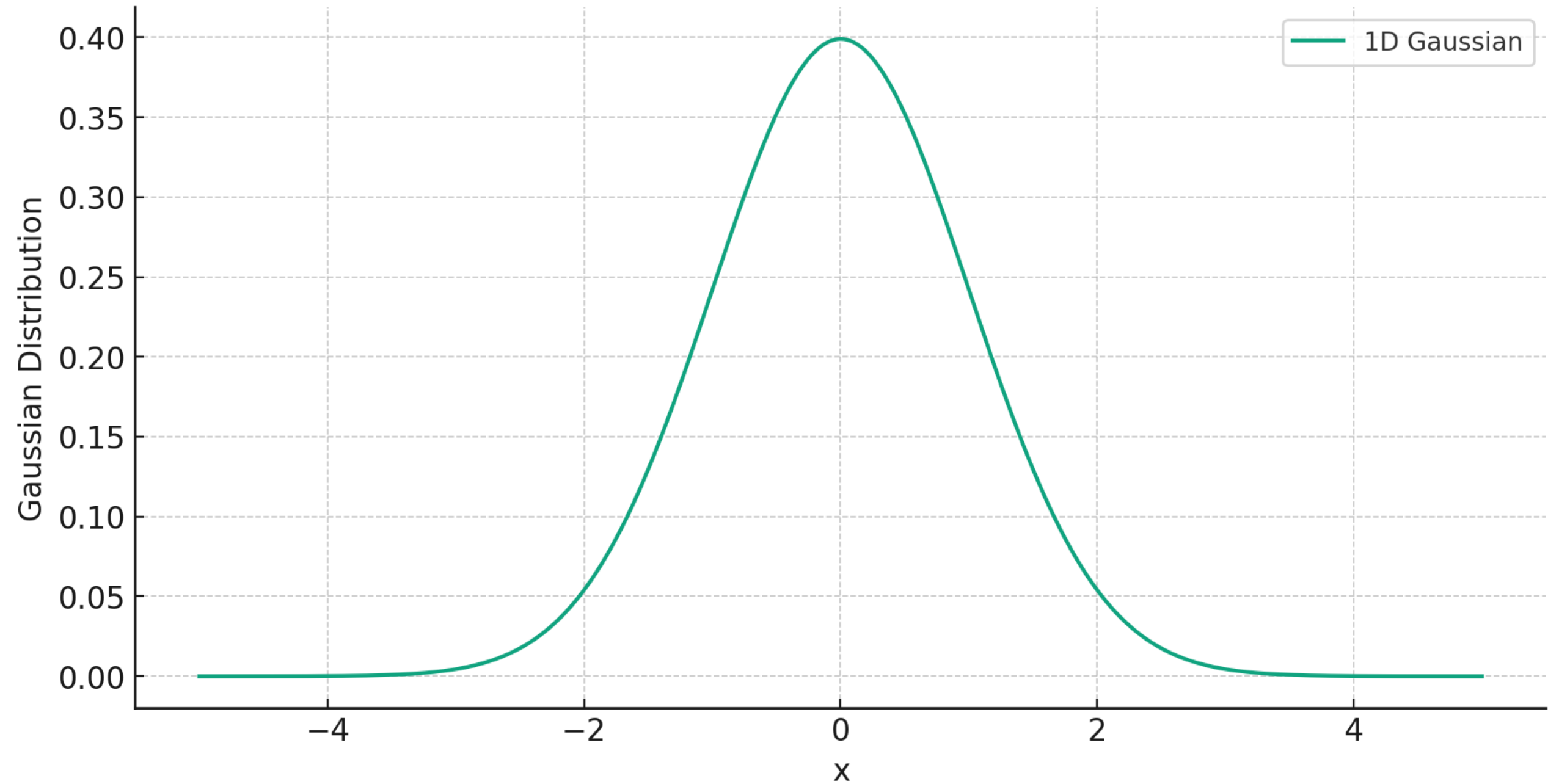
¹Inria

²Université Côte d'Azur

³MPI Informatik



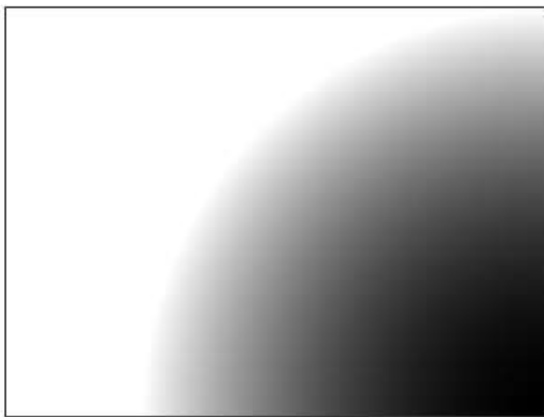
1D Gaussian Function







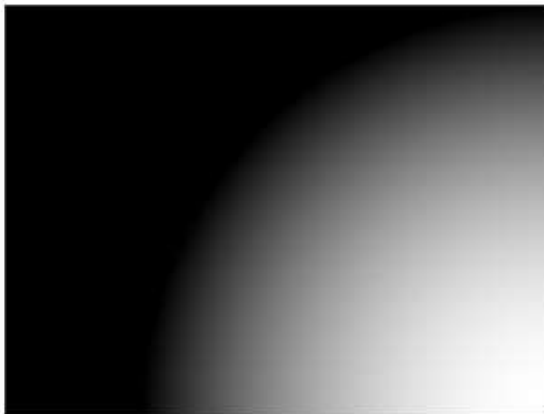
*



=



*



=

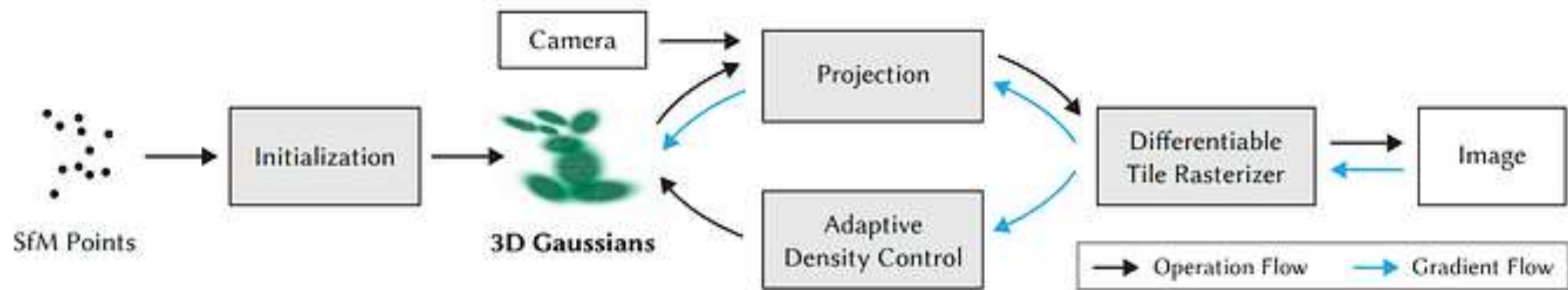


+

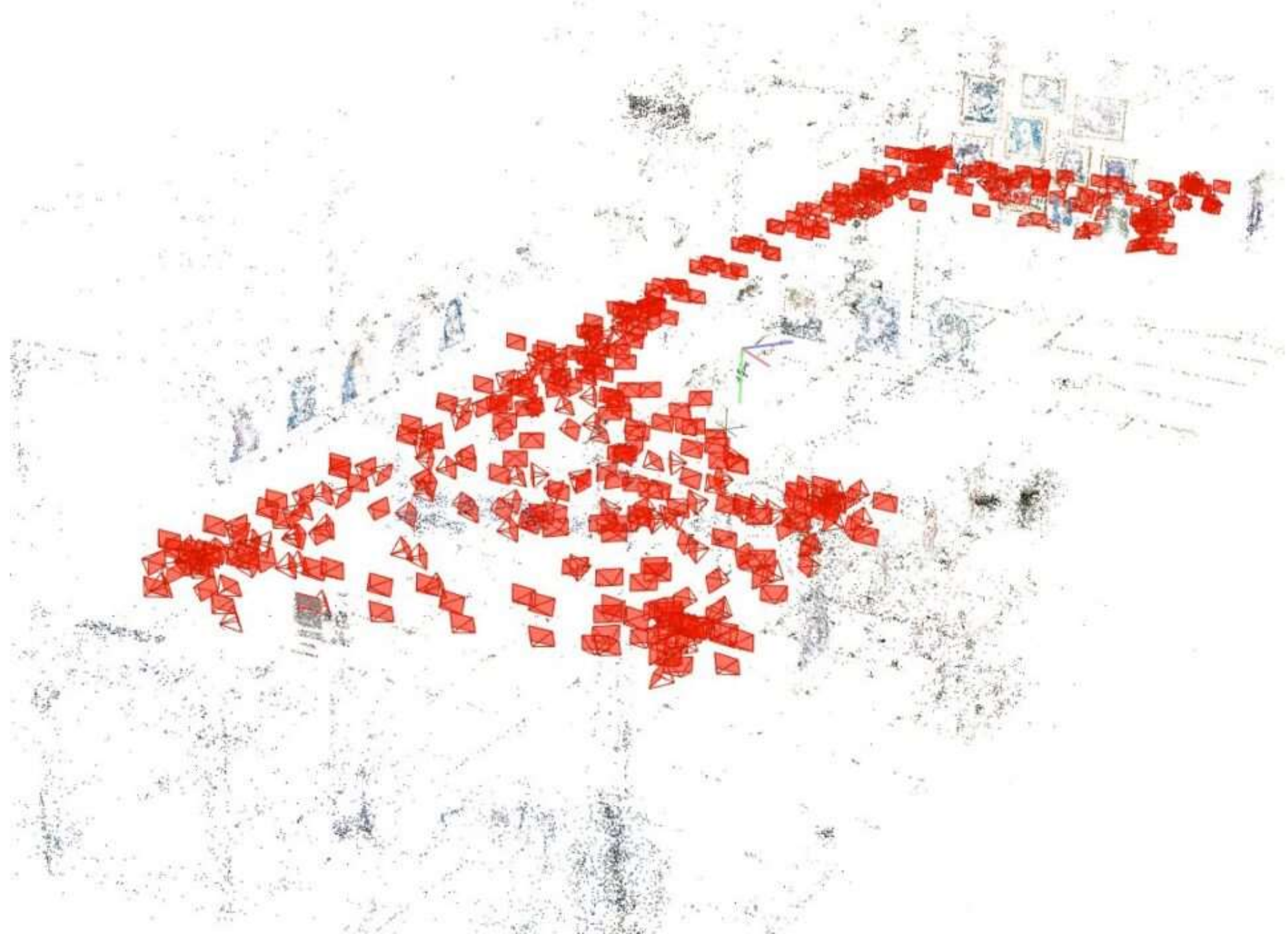


=











Novel Lighting
& Viewpoint



Illumination



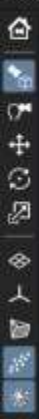
Shadows



LUMA AI



polycam



Scene Preferences Log

- Scene
 - Image Set
 - Radiance Field
 - Crop Box

Parameters

Radiance Field

Train Edit Render

Model Profile: **Splat**

Splat Density: **1.000000**

Black Background:

Model Size: **1.00 MPixels**

Model trained by: **v0.2.67**

Stop Training After: **100** [Steps]

Store Training Context:

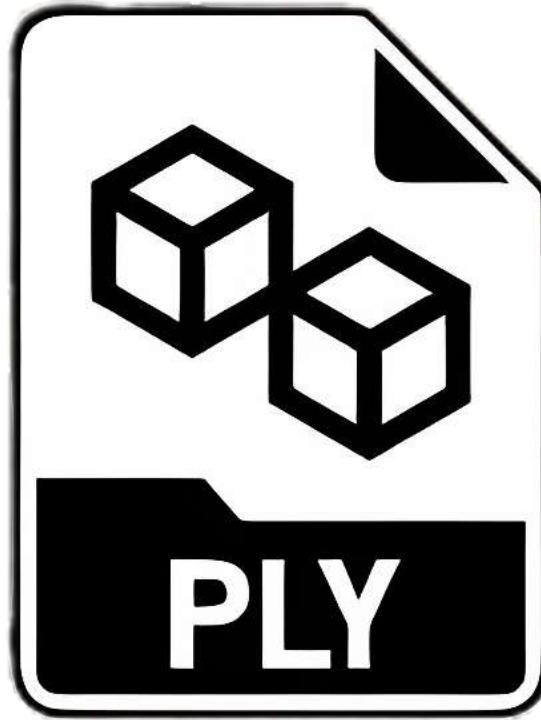
Reset Radiance Field



Training Radiance Field... Exposed: 5h 17m 58s Remaining: 1h 32m 12s

78.47 kSteps of 100.00 kSteps, 1.7% MPixels





Hierarchy

- GSTestScene
 - Directional Light
 - GaussianSplats
 - Main Camera
 - Cube



Inspector

GaussianSplats

Tag Untagged Layer Default

Transform

Position	X 0	Y 1.57	Z 0
Rotation	X 0	Y -41.3	Z 180
Scale	X 1	Y 1	Z 1

Gaussian Splat Renderer (Script)

Data Asset

Asset @alleyway-v2.1 (Gaussian Splat Asset)

Render Options

Splat Scale

Opacity Scale

SH Order

SH Only

Sort Nth Frame

Debugging Tweaks

Render Mode Splats

Resources

Edit Reset

Add Cutout Use All Cutouts No Cutouts

Cutouts 0

Export in World Space

Export PLY

Splats 1,448,978

Add Component



Olli Huttunen

@OlliHuttunen78 · 11.5K subscribers · 143 videos

I am a 3D enthusiast, Animator, Aerial videographer and a filmmaker from Finland.

toppinappi.fi and 5 more links

 Subscribed 



4D Gaussian Splatting for Real-Time Dynamic Scene Rendering

CVPR 2024

Guanjun Wu^{1*}, Taoran Yi^{1*}, Jiemin Fang^{2‡}, Lingxi Xie², Xiaopeng Zhang²,
Wei Wei¹, Wenyu Liu¹, Tian Qi², Xinggang Wang^{1‡}

¹Huazhong University of Science and Technology ²Huawei Inc.

*Equal Contributions. ‡Project Lead. [✉]Corresponding Authors.

 Paper

 arXiv

 Code





43.44 (23.02 ms)





SIGGRAPH 2024

DENVER+ 28 JUL — 1 AUG

1. Fast Radiance Fields

1. [RTG-SLAM](#): Real-time 3D Reconstruction at Scale Using Gaussian Splatting.
2. [BoostMVSNeRFs](#): Boosting MVS-based NeRFs to Generalizable View Synthesis in Large-scale Scenes
3. [A Hierarchical 3D Gaussian Representation](#) for Real-time Rendering of Very Large Scenes
4. [SMERF](#): Streamable Memory Efficient Radiance Fields for Real-time Large-scene Exploration
5. [2D Gaussian Splatting](#) for Geometrically Accurate Radiance Fields
6. [StopThePop](#): Sorted Gaussian Splatting for View-consistent Real-time Rendering
7. [Fast Radiance Fields](#) - Interactive Discussion

2. NeRFs and Lighting

1. [LightFormer](#): Light-oriented Global Neural Rendering in Dynamic Scene
2. [NeLT](#): Object-oriented Neural Light Transfer
3. [NeRF as a Non-distant Environment Emitter](#) in Physics-based Inverse Rendering
4. [3D Gaussian Splatting With Deferred Reflection](#)
5. [Lite2Relight](#): 3D-aware Single Image Portrait Relighting
6. [EyeIR](#): Single Eye Image Inverse Rendering in the Wild
7. [NeRFs and Lighting](#) - Interactive Discussion

3. Dynamic Radiance Fields

1. [ST-4DGS](#): Spatial-Temporally Consistent 4D Gaussian Splatting for Efficient Dynamic Scene Rendering
2. [GaussianPrediction](#): Dynamic 3D Gaussian Prediction for Motion Extrapolation and Free View Synthesis
3. [Factorized Motion Fields](#) for Fast Sparse Input Dynamic View Synthesis
4. [Modeling Ambient Scene Dynamics](#) for Free-view Synthesis
5. [4D-Rotor Gaussian Splatting](#): Towards Efficient Novel View Synthesis for Dynamic Scenes
6. [Controllable Neural Style Transfer for Dynamic Meshes](#)

4. Radiance Field Processing

1. [A Construct-optimize Approach](#) to Sparse View Synthesis Without Camera Pose
2. [Bilateral Guided Radiance Field Processing](#)
3. [Rip-NeRF](#): Anti-aliasing Radiance Fields With Ripmap-encoded Platonic Solids
4. [N-Dimensional Gaussians](#) for Fitting of High Dimensional Functions
5. [Binary Opacity Grids](#): Capturing Fine Geometric Detail for Mesh-based View Synthesis
6. [TensoSDF](#): Roughness-aware Tensorial Representation for Robust Geometry and Material Reconstruction
7. [Radiance Field Processing](#) - Interactive Discussion







Main

Selection Mode

Platforms

VP Rules

Pixel Streaming



Outliner

Item Label	Type
Main (Editor)	World
BP_3D_Gaussians_Pyramids_Maged1	Edit BP_3D_Gaussians_Pyramids_Maged1
CineCameraActor	CineCameraActor
DirectionalLight	DirectionalLight
Player Start	PlayerStart
PostProcessVolume	PostProcessVolume
Sphere	StaticMeshActor
Ultra_Dynamic_Sky	Edit Ultra_Dynamic_Sky



7 actors (1 selected)

Details

BP_3D_Gaussians_Pyramids_Maged1

BP_3D_Gaussians_Pyramids_Maged1 (Self)

- DefaultSceneRoot
- Box

Out

General Actor LOD Material Physics Rendering Streaming

All results have been filtered. Try changing your active filters above

1. New technique for 3D volume rendering
2. Faster and better quality results than NeRF
3. Cross platform, but best GUI tool (Postshot) is currently Windows/Nvidia 2000+ only, try Open Splat for Mac/Linux
4. Training requires multiple passes and fine tuning to reduce artefacts
5. Different cameras for different conditions of capture
6. Game engine required to introduce colliders and create a navigable scene (i.e. make an environment)
7. 4D (i.e. time-based) GS offers a new way to capture dynamic scenes – stay tuned!

A person wearing a dark racing suit with 'erl' and 'ari' visible on the chest stands in a dark garage. They are positioned in front of a red Ferrari sports car with its headlights on. The scene is dimly lit, with the car's lights providing the primary illumination. In the background, other cars are faintly visible.

Thank You