

Generative AI for Rendering

Scene Asset Generation

3D Object Generation

MeshGPT: Generative Triangle Meshes with Decoder-only Transformers

3D Environment Generation

WonderJourney: Going from Anywhere to Everywhere

LucidDreamer: Domain-free Generation of 3D Gaussian Splatting Scenes

Monocular Depth Estimation

Patch Fusion

Repurposing Diffusion-Based Image Generators for Monocular Depth Estimation

Scene Encoding and Representation

Neural Radiance Fields

Gaussian Splatting

Supercharging 3D Gaussian Splatting to Enable Distilled Feature Fields

Neural Rasterization

NeuRas

ICCV 23

Stable Diffusion

Generative Models: What do they know?

Intrinsic Properties of Diffusion Models

View Consistency

One-2-3-45++ Fast Single Image to 3D Diffusion

One-2-3-45 Any Single Image to 3D Mesh

Zero-1-to-3: Zero Shot Image to 3D

Zero123++: Single Image to Multi-view Diffusion Model

Faster Inference

Single Step Inference

Adversarial Diffusion Distillation (StabilityAI - SD XL Turbo)

Generalized Module

LCM-LoRa

Seminal Paper

Latent Consistency Models

20 fps

One-step Diffusion with Distribution Matching Distillation

Control and Interaction

ControlNet

Adding Conditional Control to Text-to-Image Diffusion Models

Conditional Diffusion Distillation

GenZI: Zero-Shot 3D Human-Scene Interaction

LooseControl: Lifting ControlNet for Generalized Depth Conditioning (KAUST)

Temporal Consistency

Temporal Consistency and Control

MagicAnimate: Temporally Consistent Human Image Animation using Diffusion Model (ByteDance)

Animate Anyone: Consistent and Controllable Image-to-Video Synthesis for Character Animation (Alibaba)

DreaMoving: A Human Video Generation Framework based on Diffusion Models
Alibaba, 2023

Stable Video Diffusion

Align your Latents: High-Resolution Video Synthesis with Latent Diffusion Models (Nvidia)

Photorealistic Video Generation with Diffusion Models
Google, Stanford, 2023

Diffusion in Functional Space

Functional Diffusion (KAUST)

High-Resolution Image Synthesis with Latent Diffusion Models

State of the art on diffusion models for visual computing

Seminal Paper

Survey Paper