

Curated VisualQA Dataset

1. Pre-training

Q: Summarize what you see in these images

A: "The images describe.."



Type 1: 4-view RGB



Type 2: single RGB



Type 3: 4-view normal map



Type 4: 2-view RGB

2. SFT

Q: Choose the better object

A: "Object 2 is better than Object 1"



Tokenizer

Image Encoder

I_{emb}

Projection Matrix (W_θ)

H_i

H_t

Vision Large Language Model (vLLM)

F_ϕ

Evaluate \forall Method pairs / Prompts / Properties

Method List



Method 1

Method 3

Gen3DEval-Bench

"A man with a
"A wooden
"An all-utility vehicle driving across a stream"

"A wooden rocking chair with smooth.."

Properties

Text Faithfulness

Surface

Appearance

Appearance

Object 1
Object 2
Instruction



Q: Choose the better object from the images provided in terms of its appearance

F_ϕ

Inference on trained vLLM (Gen3DEval)

Final Ranking Metric Output

1. Method 3
2. Method 2
...

Metric Computation

"Object 1 surpasses Object 2"

Stage 1: Train the vLLM (Gen3DEval) in two stages - pre-training and supervised fine-tuning (SFT).

Stage 2: Use the trained vLLM (Gen3DEval) to generate a ranking metric.