Original 3DGS training

Positions x,y,z
Densification phase
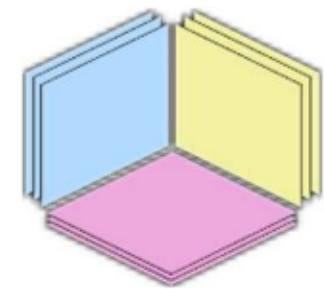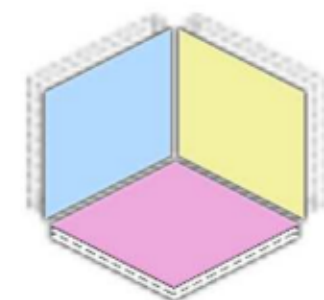
$L = 3$
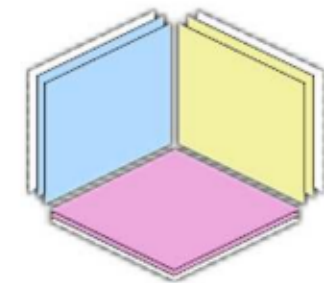
$L = 2$

$L = 1$

Progressive training
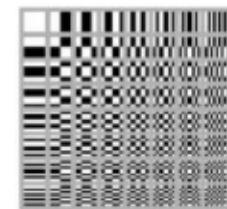
Block-wise DCT   Entropy modeling   Channel-wise Importance

$$\mathbb{E}\left[-\log p\left(\tilde{\mathcal{P}}\right)\right]$$

#1 #2 #3 #4
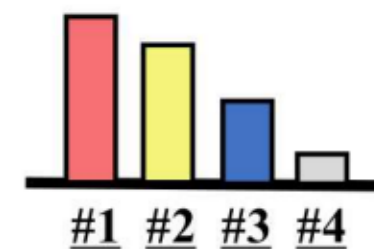
Attribute prediction   Gaussian renderer

MLP → Color $\tilde{c}$
Scale $\tilde{s}$
Rotation $\tilde{q}$
Opacity $\tilde{\sigma}$

Point positions
Feature planes

⇓
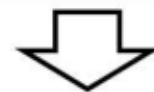
Channel-to-frame concatenation

⇓

16-bit integer quantization

⇓

Video codec (HEVC, x265)

⇓

Bitstream

Point initialization   Feature plane optimization   Compression