SVG-IR Framework (Sec. 4.2)

Spatially-varying Gaussian representation (Sec. 4.1)

$\Sigma_i, \mu_i, c_i, \alpha_i$ $\boldsymbol{a}_i^{\{M\}}, \Delta N_i^{\{M\}}, r_i^{\{M\}}$

Pre-trained Gaussian Attributes   Vertex Material Attributes

Spatially-varying Gaussian Splatting

Physically-based Lighting (Sec. 4.3)

$c_i^{\{M\}}$ Vertex Colors

c_i^2 c_i^3 u c_i^0 c_i^1 v

Vertex Shading

Fragment Shading

Render

Loss

GT