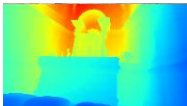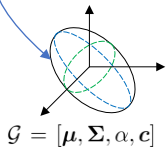## Hybrid Implicit-explicit Space
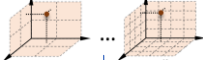
Posed RGB-D

Explicit Branch

Implicit Branch

Tri-plane Feature | Position Encoding

Color Decoder | Geo Decoder

RGB | SDF

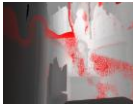$\mathcal{G} = [\boldsymbol{\mu}, \boldsymbol{\Sigma}, \alpha, \boldsymbol{c}]$

Hierarchical Uncertainty Map Construction

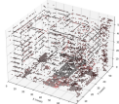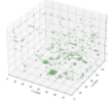**Explicit Branch**

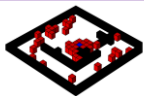Depth Uncert | RGB Uncert
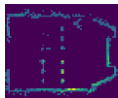
Implicit Branch

Implicit Uncert | SDF Uncert

Next-Best-View Searching

Candidates Sampling

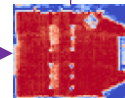Occupancy Map

State Evaluation → Information Weighting → NBV Reward → Safety Calculation

Agent Action ← RRT ← Hybrid Risk Filed
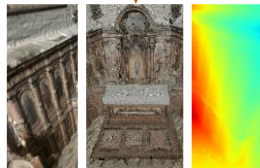
Joint Optimization

View-aware Keyframe Selection

Sliding Window Management

Explicit Loss | Implicit Loss

BA Optimization

Mesh / Gaussian Map / Depth