

Supplementary Material for SplatSearch: Instance Image Goal Navigation for Mobile Robots using 3D Gaussian Splatting and Diffusion Models

A. Visualization Samples of the HM3D Validation Set

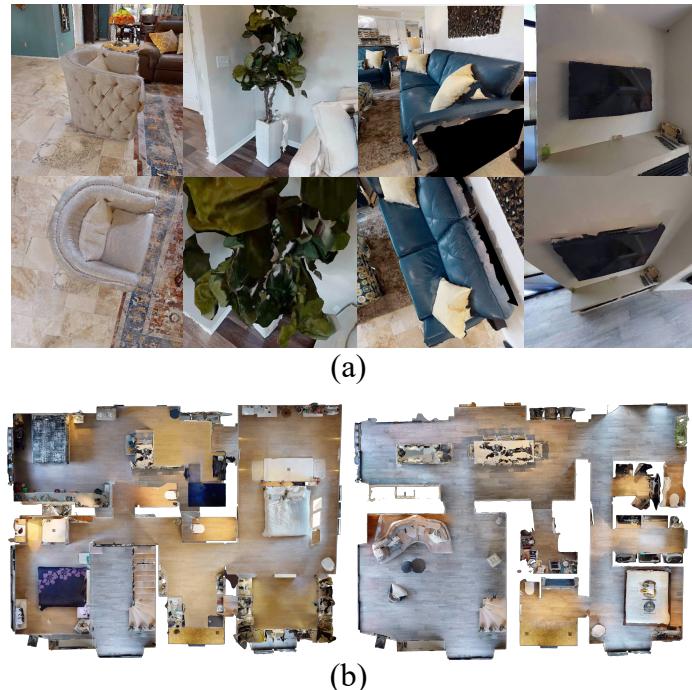


Fig. A.1 (a) Sample goal images used in the HM3D_val dataset (top row) and corresponding images with BEV viewpoints in the HM3D_val_hard dataset (bottom row); and (b) Sample photorealistic indoor environments contained in the HM3D dataset.

B. Qualitative Results of VCICN

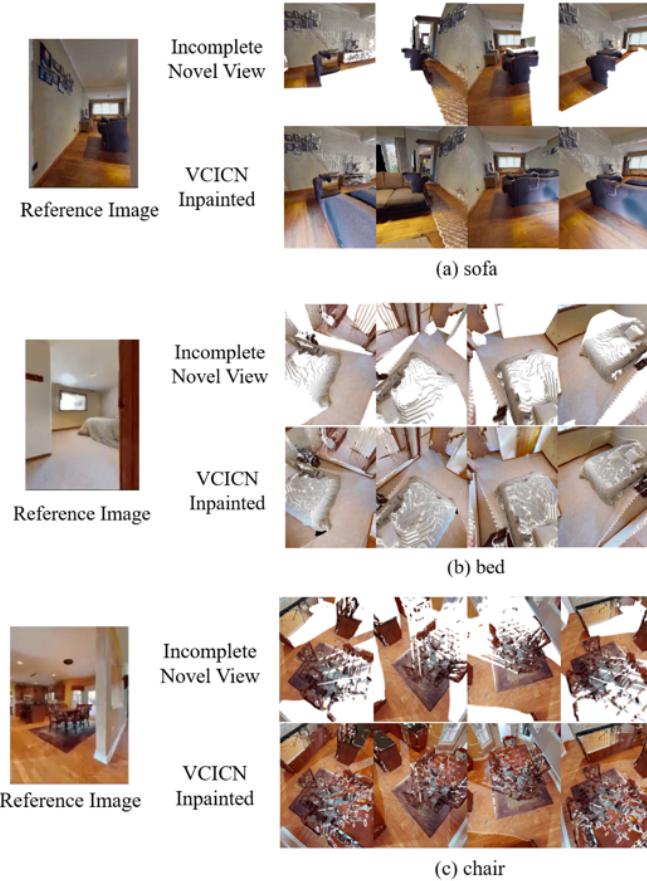


Fig. B.1. Qualitative results for inpainting for the VCICN for a: (a) sofa, (b) bed, and (c) chair. Given incomplete novel viewpoints during online 3DGS and a reference image taken from the robot’s viewpoint, the VCICN generates view-consistent completed images that recover missing structure and texture.

C. Runtime Analysis

TABLE C.I: RUNTIME ANALYSIS

Modules	Runtime (s)	Modules	Runtime (s)
MGM	0.1	SOIM	0.1
FEM	0.05	EP	0.01
VCICN	7.2	NVSM	2.2
Main Nav. Loop (MGM+SOIM+EP)	0.21		