

Inputs



Input Image

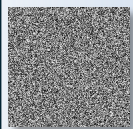
x_0

+

Control Inputs

$a_{0:T-1}$

Enc



World Model
 W_θ



Dec

Rollouts

$\hat{x}_{1:T}^{(0)}$



$\hat{x}_{1:T}^{(1)}$



...

$\hat{x}_{1:T}^{(G)}$



Self-supervised Rewards

3D Evaluator

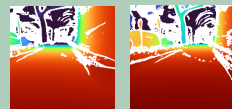
Translation Error

$$-\left(\frac{1}{|T|} \sum_{t \in T} \|e_t^{\text{trans}}\|_2^2 + \|e_{|T|}^{\text{trans}}\|_2^2\right)$$

Rotation Error

$$-\sum_{t \in T} e_t^{\text{rot}}$$

Depth Reproj. Inlier Ratio



Video Evaluator

VideoAlign

$$\alpha s_{\text{vis}} + \beta s_{\text{mot}}$$

GRPO

Score:
2.07



Score:
1.54



...

Score:
-1.86



GrndCtrl
Framework