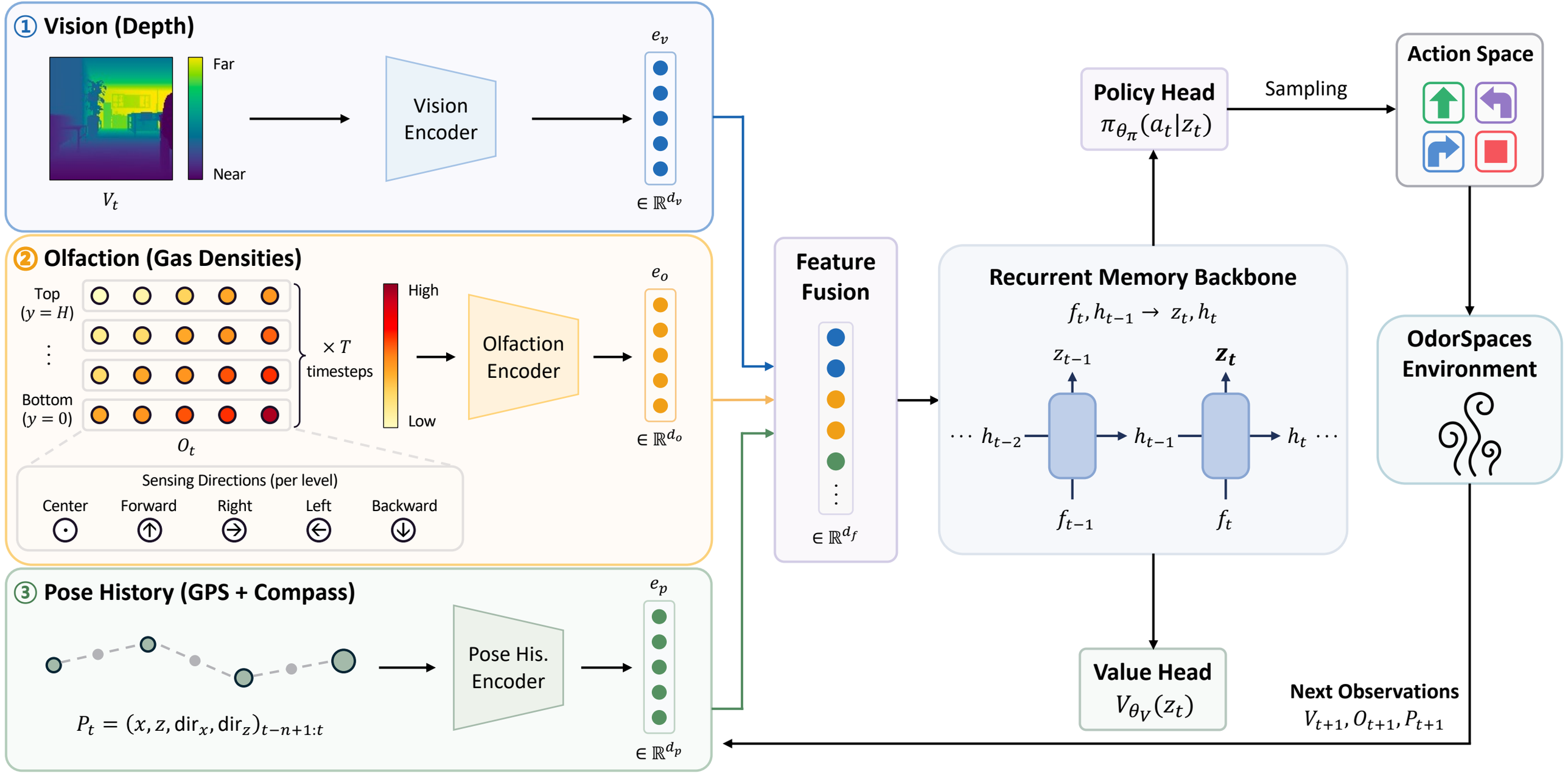

① Vision (Depth)
Far
Near
V_t
Vision Encoder
e_v
$\in \mathbb{R}^{d_v}$
② Olfaction (Gas Densities)
Top ($y = H$)
Bottom ($y = 0$)
$\times T$ timesteps
O_t
High
Low
Olfaction Encoder
e_o
$\in \mathbb{R}^{d_o}$
Sensing Directions (per level)
Center
Forward
Right
Left
Backward
③ Pose History (GPS + Compass)
$P_t = (x, z, \mathrm{dir}_x, \mathrm{dir}_z)_{t-n+1:t}$
Pose His. Encoder
e_p
$\in \mathbb{R}^{d_p}$
Feature Fusion
$\in \mathbb{R}^{d_f}$
Recurrent Memory Backbone
$f_t, h_{t-1} \rightarrow z_t, h_t$
z_{t-1}
z_t
$\cdots h_{t-2}$
h_{t-1}
$h_t \cdots$
f_{t-1}
f_t
Policy Head
$\pi_{\theta_\pi}(a_t|z_t)$
Sampling
Action Space
OdorSpaces Environment
Value Head
$V_{\theta_V}(z_t)$
Next Observations
$V_{t+1}, O_{t+1}, P_{t+1}$