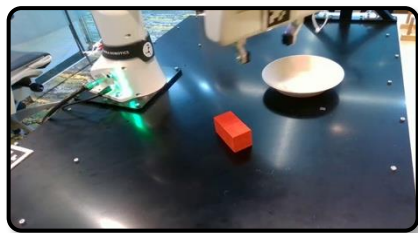


### Stage 1: Base Policy Training

Standard Training

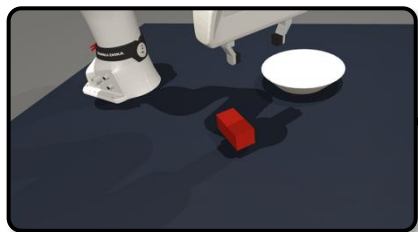
Real Demos



$\pi_{VLA}^{real}$



Sim Replay



$\pi_{VLA}^{sim}$



$p(action)$

Same action data, separate domain training

### Stage 2: RL Policy Training

Simulation



$\pi_{VLA}^{sim}$



Object Pose



$\pi_{res}^{sim}$

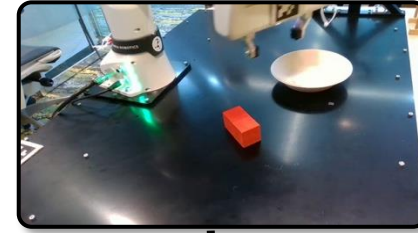


Corrected Action

Train Object-Centric RL policy in Simulation

### Stage 3: Real Deployment

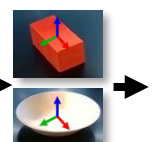
Real World



$\pi_{VLA}^{real}$



Object Pose Estimator



$\pi_{res}^{sim}$



Corrected Action

Zero-shot transfer  
(no real RL needed)

Rollout / Collect Data in Real-World