Synadata Data Product Brochure

SYNAPATH AI

MAKE ROBOTS WORK

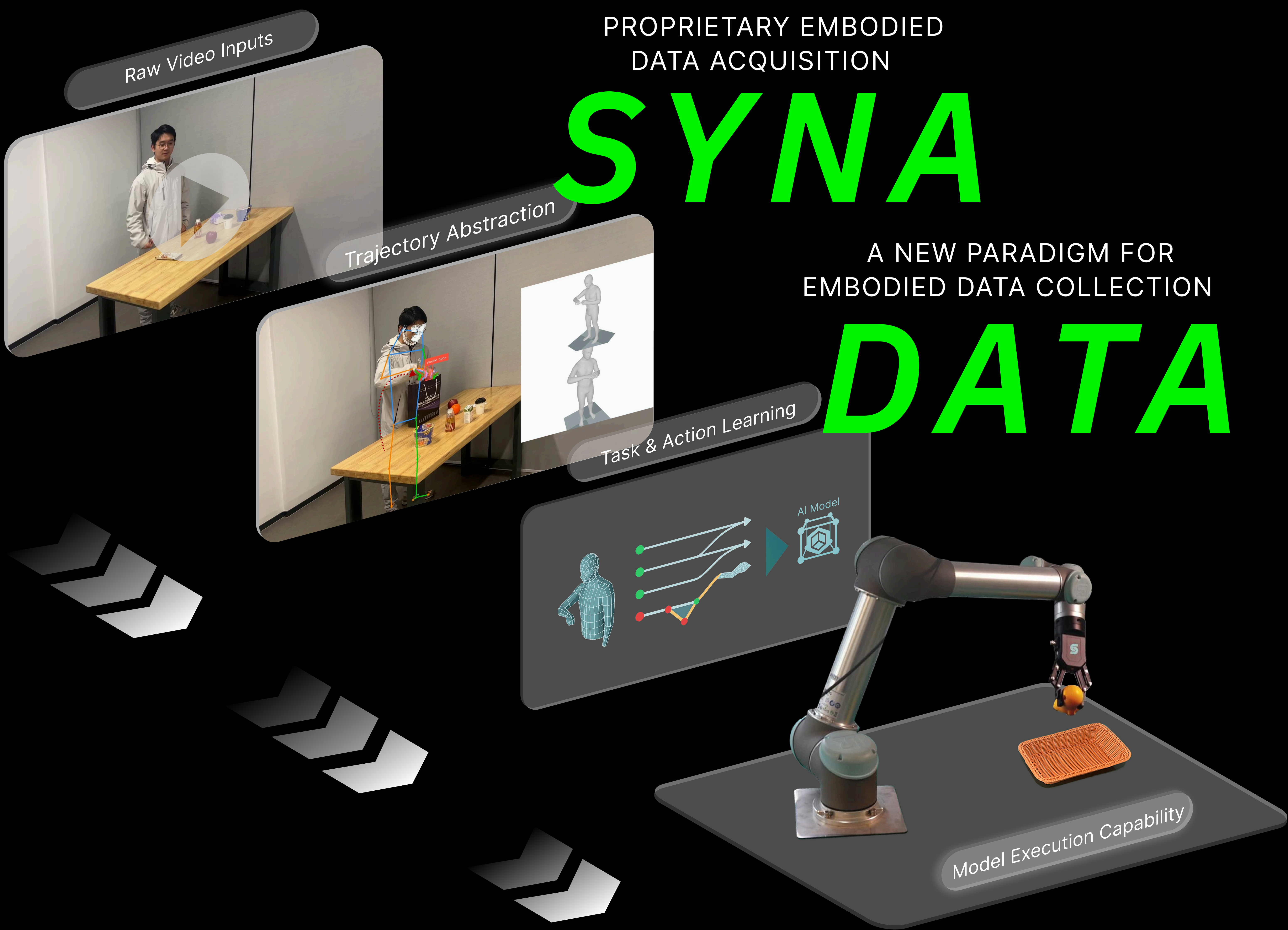
END-TO-END DATA FOR EMBODIED AI

PROPRIETARY EMBODIED
DATA ACQUISITION

SYNA

A NEW PARADIGM FOR
EMBODIED DATA COLLECTION

DATA



Synadata is a data generation and delivery platform designed for Embodied AI, robotics, and multimodal models.

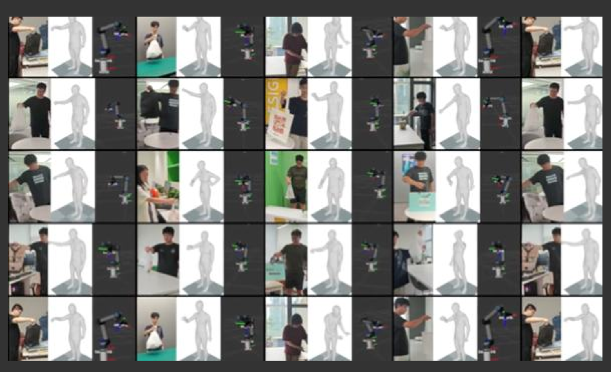
Through structured data acquisition and processing, it converts human behavior, robot manipulation, and egocentric perception into high-quality, training-ready datasets.

Follow Us

HUGGING FACE

From Raw Video to Multimodal Training Data

Synadata is a proprietary end-to-end data pipeline developed on years of technical expertise. It converts human–object interaction videos into multimodal training data for embodied models. The resulting decoupled datasets are compatible with multiple robot embodiments and learning models, and have been successfully validated across multiple third-party frameworks.



RGB video

COLLECT LARGE-SCALE DATA AT EXTREMELY LOW COST

SynaData

END TO END DATA PIPELINE

- Tactile Sensation
- Ego Camera
- Object Pointcloud
- Wrist Camera
- Object Trajectory
- TCP Trajectory
- Tcp 6DoF
- ...

MULTIMODAL OUTPUTS

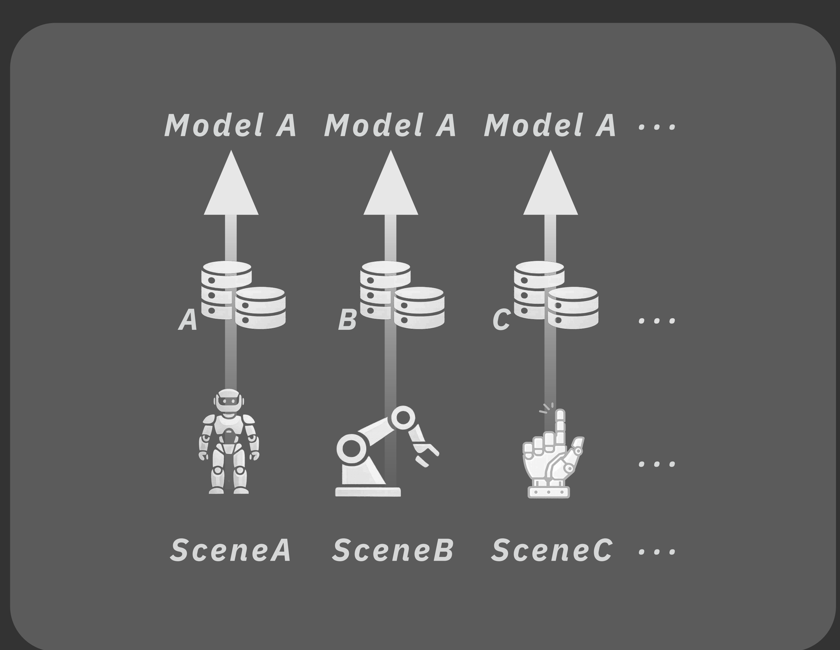
DP
RDT
PI-0
ACT
...

VALIDATED ON THIRD-PARTY MODELS

Current Challenges

High reliance on manual collection

Limited data modalities

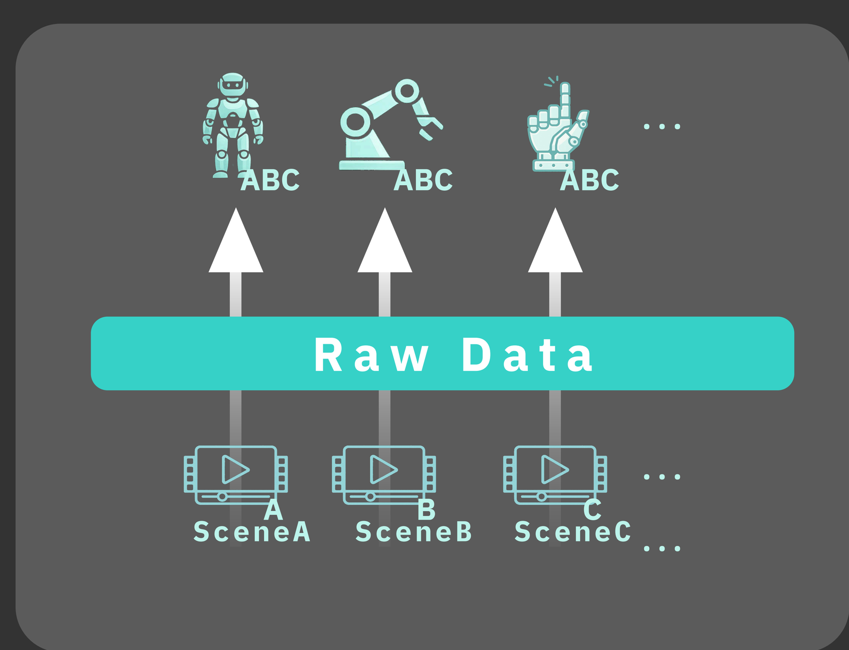


Poor reusability across tasks and embodiments

What Synadata Provides

Large-scale data sources with low marginal cost

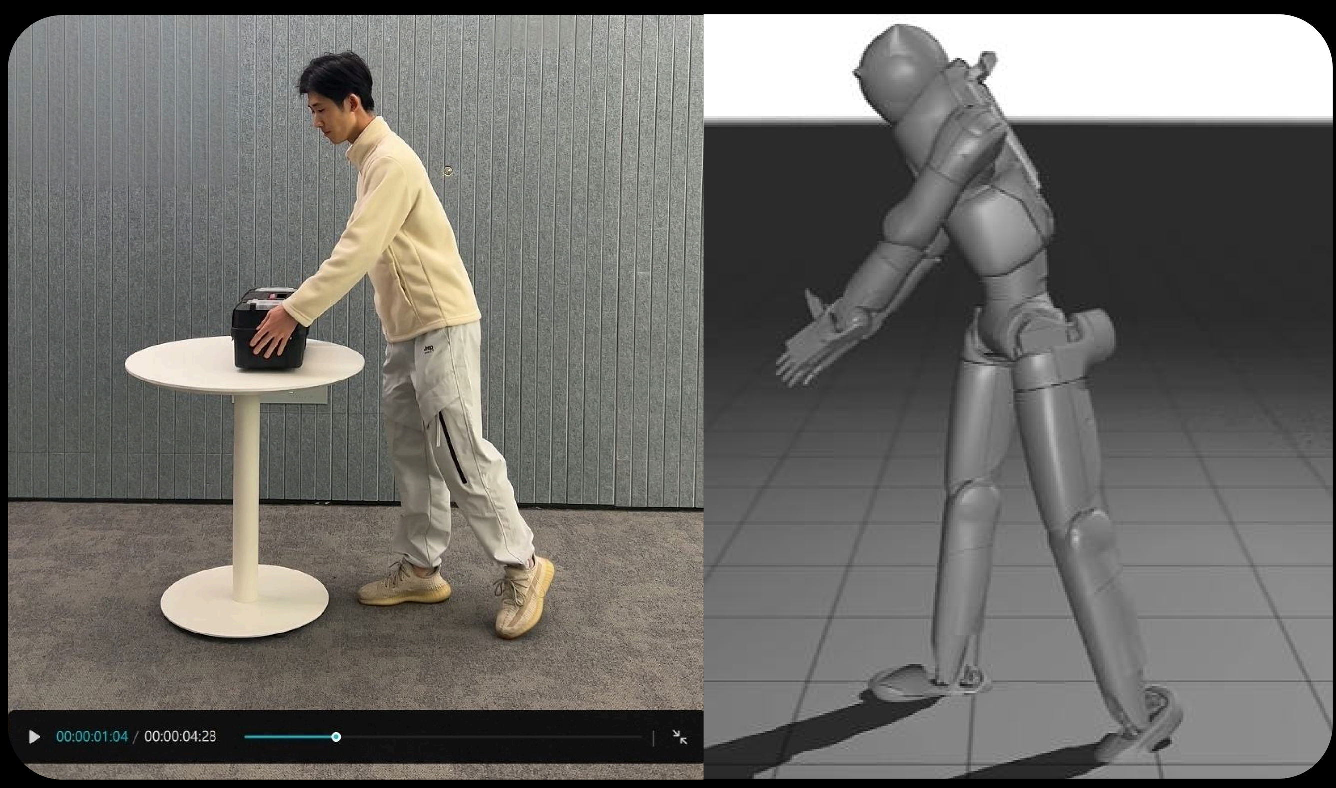
Rich multimodal representations



Standardized datasets for cross-task and cross-robot use

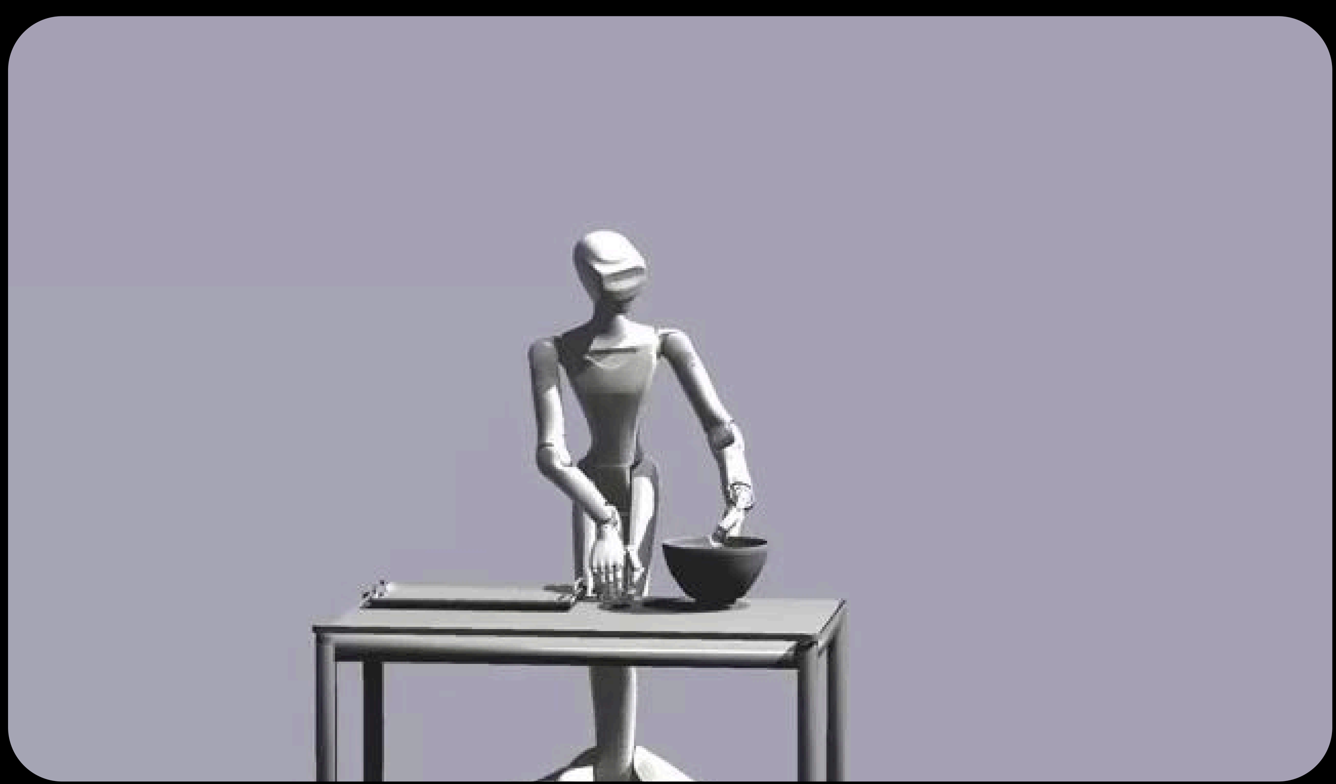
SYNAPATH AI

Synadata Core Data Products Overview

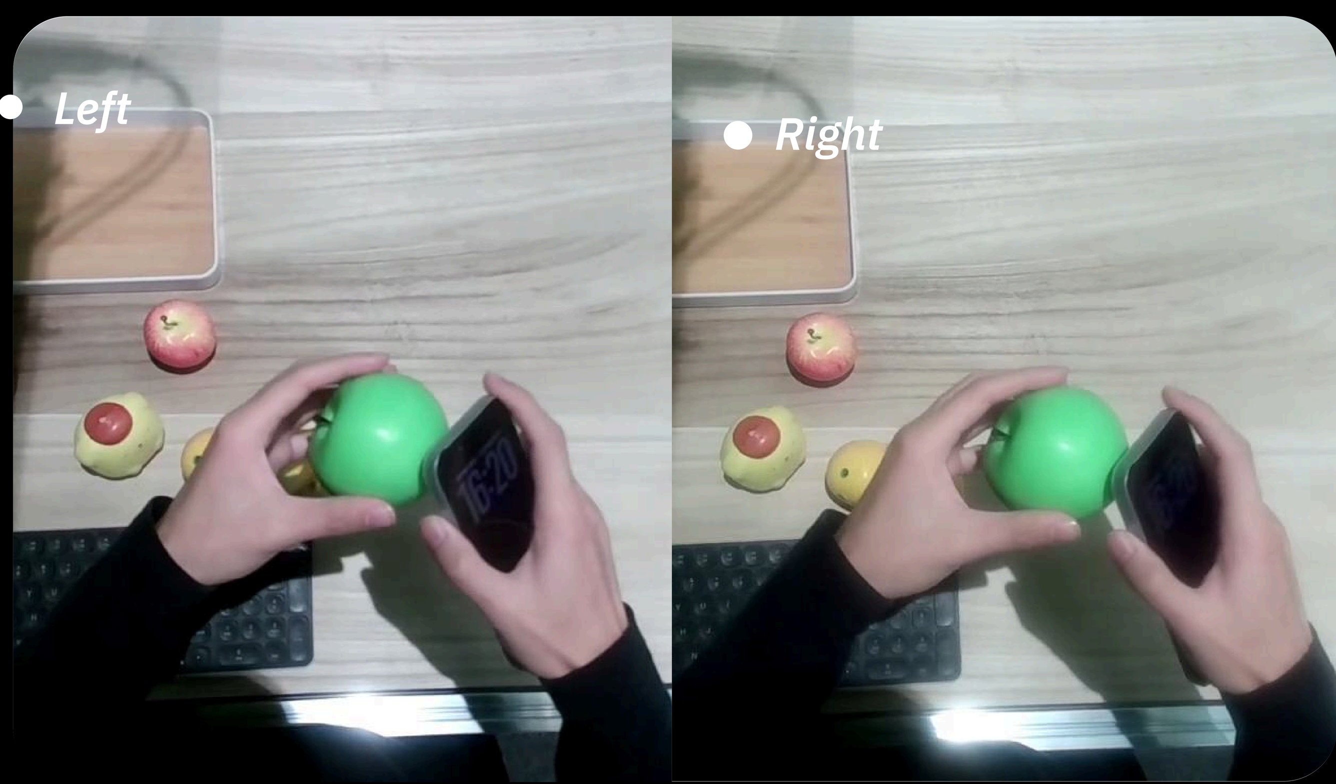


Locomotion
(Motion Capture)

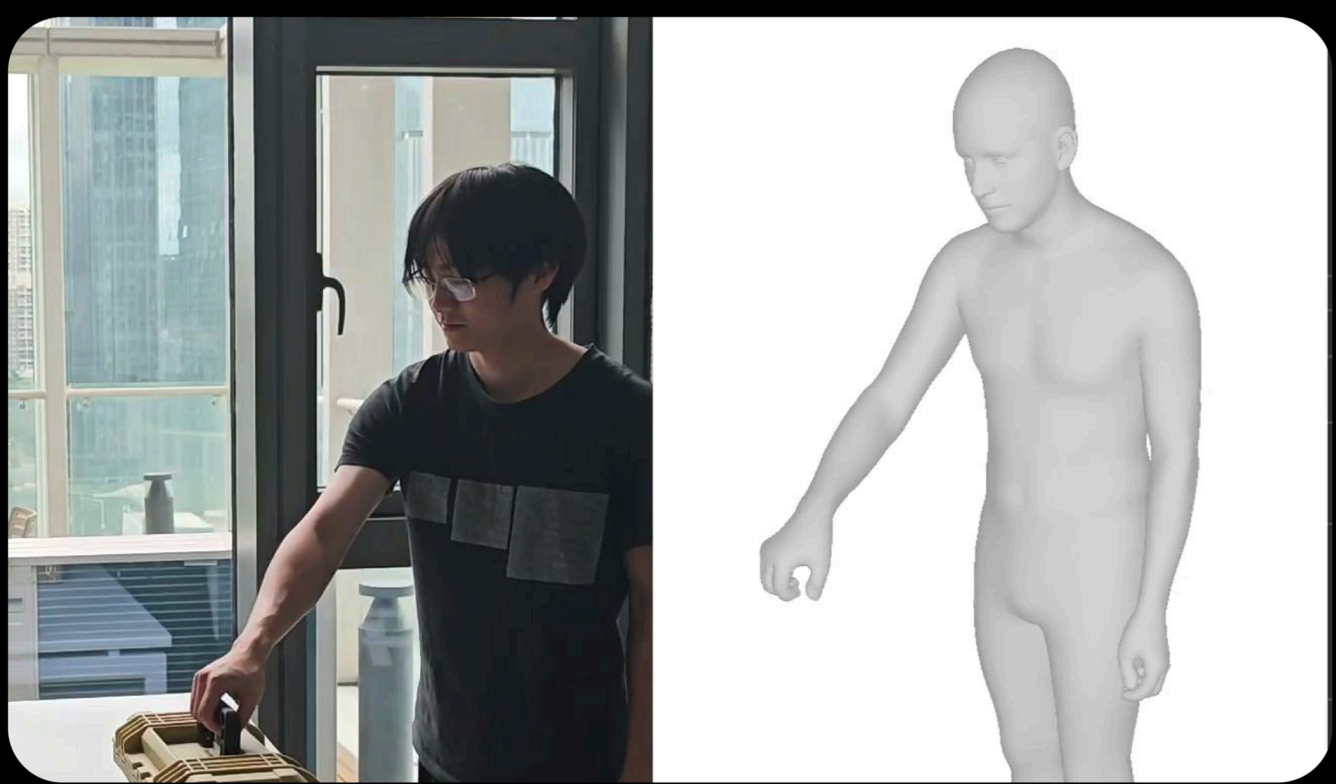
Single / Dual-Arm
Manipulation



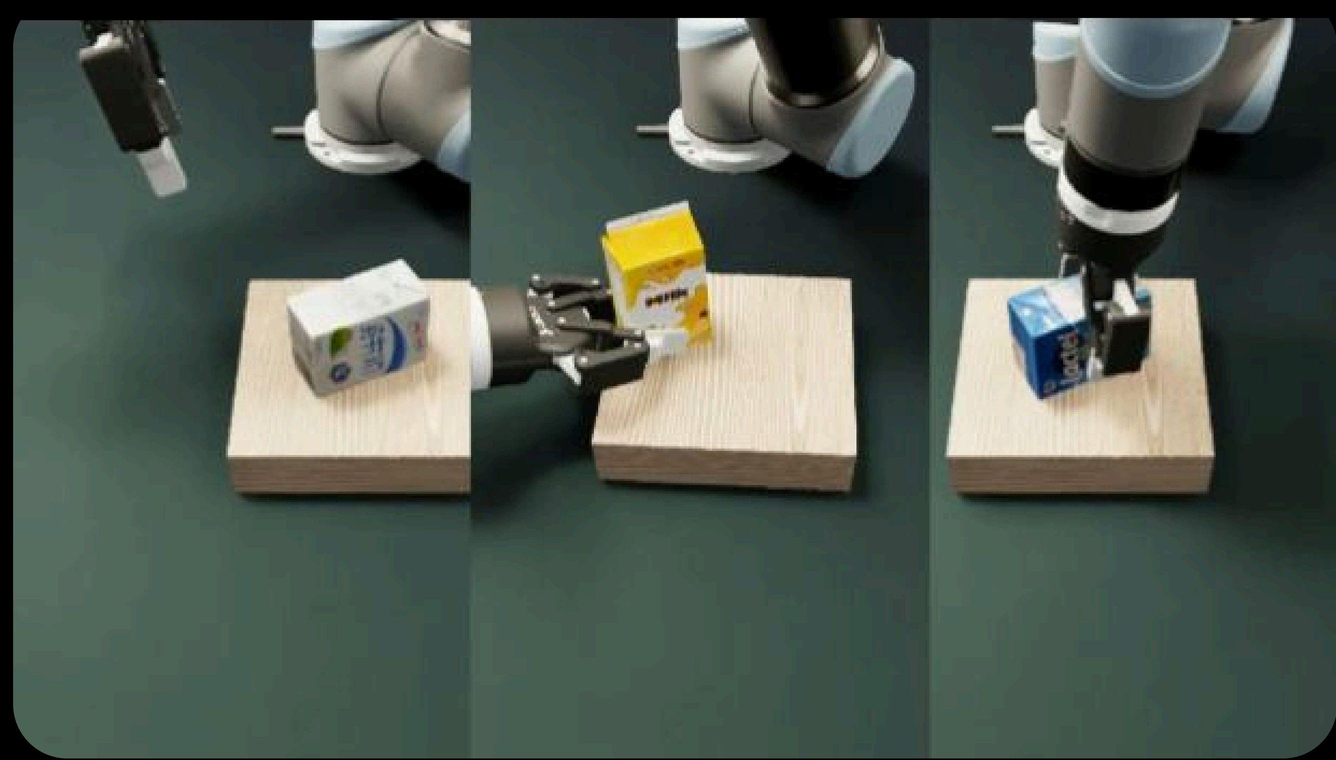
Humanoid Manipulation



Egocentric Video



Human–Object Interaction
Data



Synthetic & Augmented
Data (Optional)

Locomotion (Motion Capture)

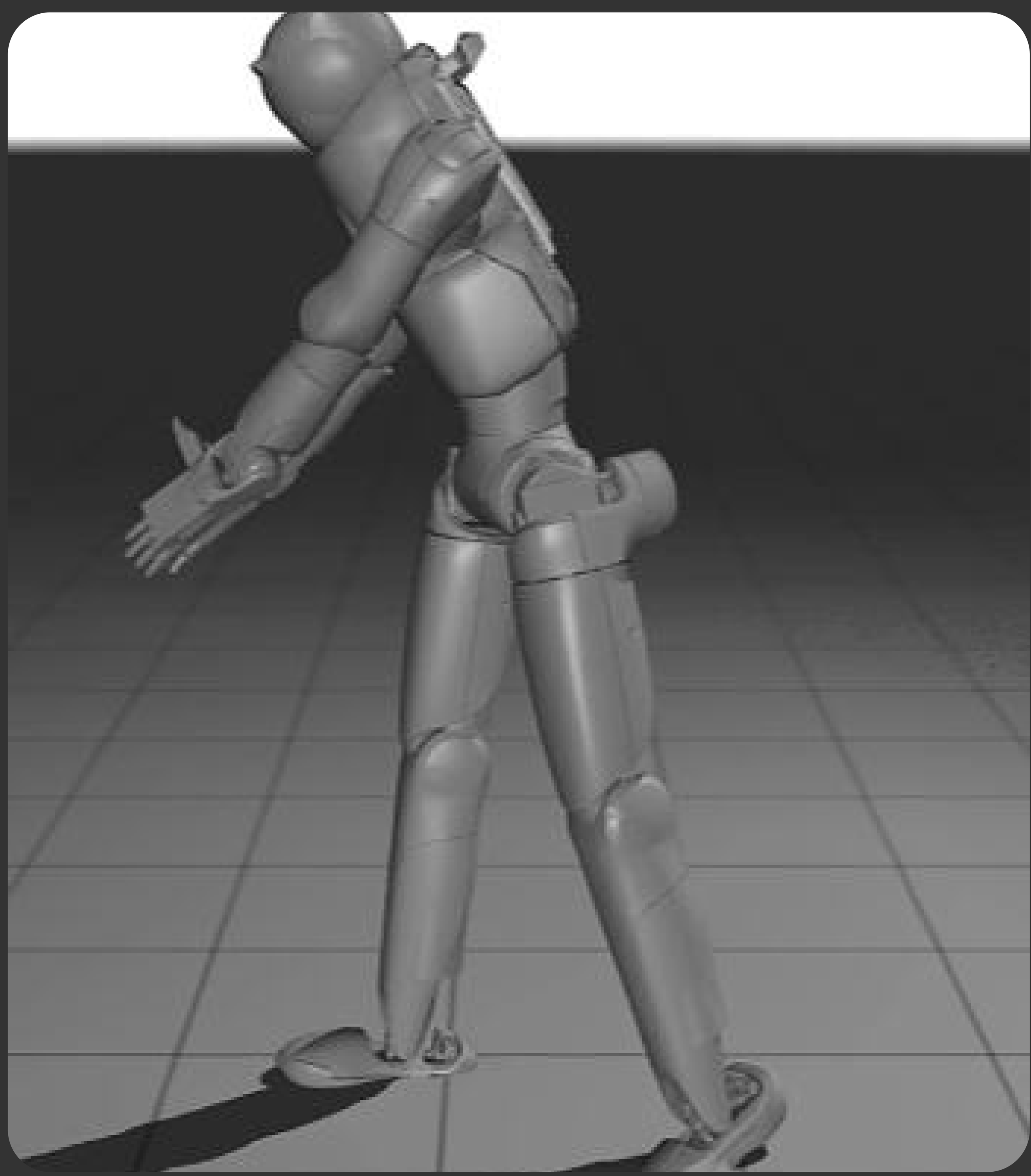
Description

Human motion data generated from video, designed for locomotion research and training in embodied systems.

Data Sources

- Monocular human motion video
- Multi-view human motion video

Data Representations



- Robot joint angles
- SMPL / SMPL-X parameters
- 3D skeletons with time-aligned pose sequences

Typical Applications

- Humanoid robot walking and mobility training
- Locomotion tasks in reinforcement learning and imitation learning

Access & Validation

Samples & Purchase

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Single / Dual-Arm Manipulation Data

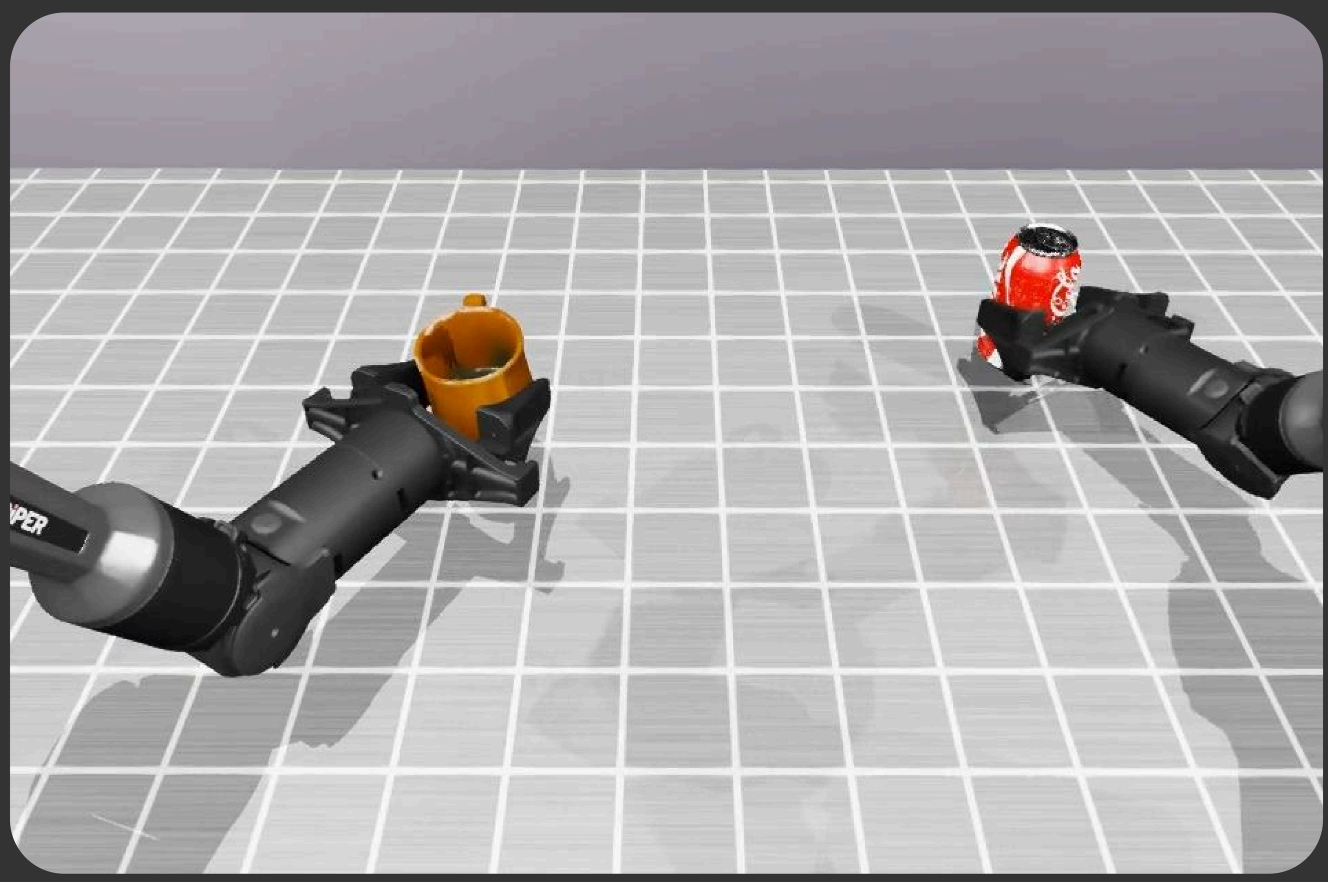
Description

High-quality demonstration data for single- and dual-arm robotic manipulation, capturing coordinated bimanual behaviors in real-world tasks.

Data Sources

- Human manipulation demonstrations
- Teleoperation-based data collection systems

Data Representations



- Dual-arm end-effector trajectories
- Time-synchronized action sequences

Typical Applications

- Dual-arm manipulation policy learning
- Imitation learning, including Behavior Cloning (BC)

Access & Validation

Robowheel Paper

Links provided：
https://zhangyuhong01.github.io/Robowheel/

Open-source dataset: HORA

Huggingface：
https://huggingface.co/datasets/HORA-DB/HORA

Github：
https://github.com/zhangyuhong01/Robowheel-Toolkits

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Humanoid Manipulation

Description

Manipulation data designed for humanoid robots, capturing coordinated upper-body and torso actions in whole-body manipulation tasks.

Data Sources

- Human Upper-Limb Manipulation
- Multi-DoF Motion Capture

Data Representations

- Upper-Limb Joint Trajectories
- Coordinated Torso-Hand Poses

Typical Applications

- Humanoid Upper-Limb Manipulation Training
- Whole-Body Control & Policy Learning

Access & Validation

Robowheel Paper

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Samples & Purchase

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Egocentric Video

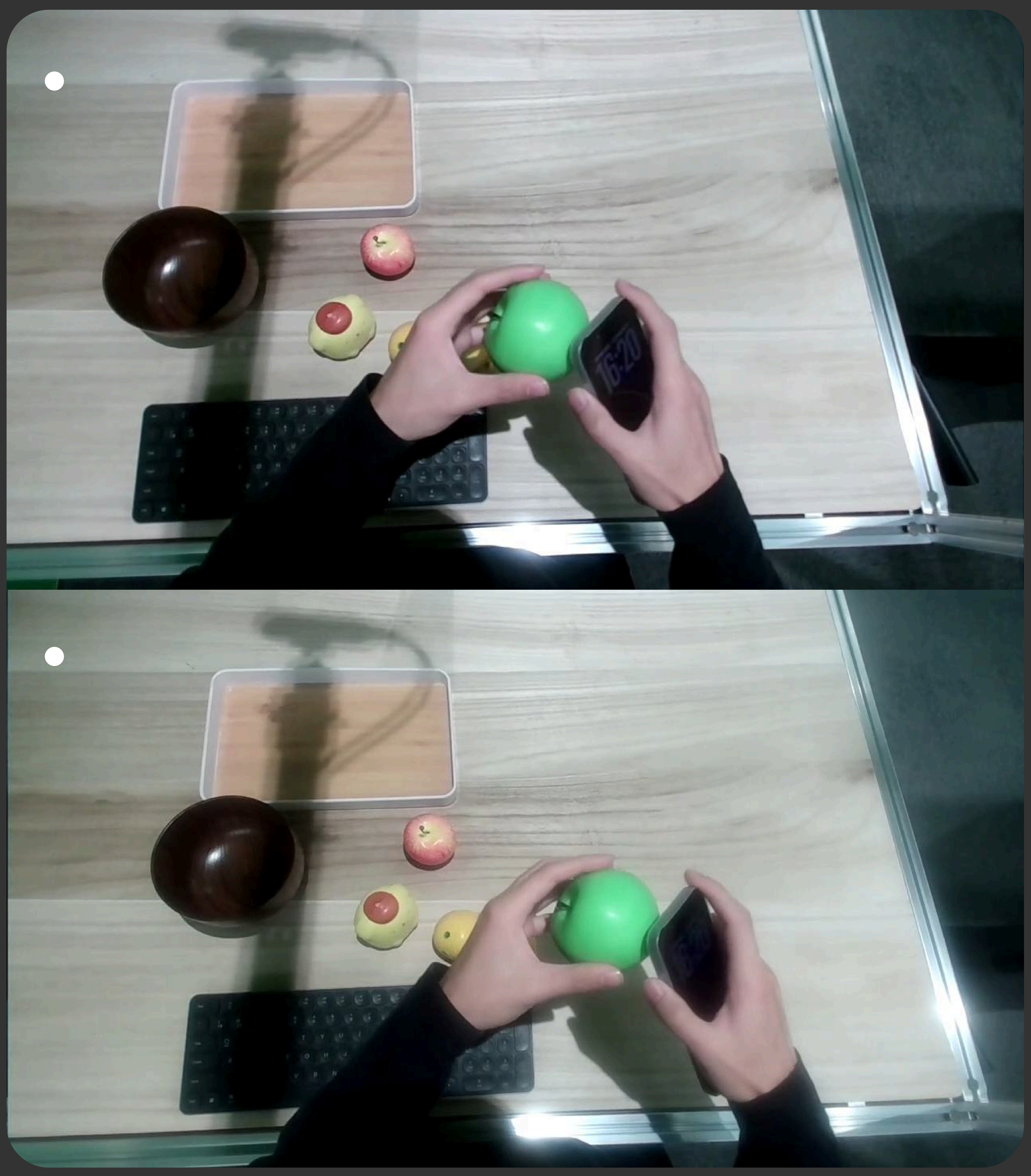
Description

First-person view (Egocentric) behavioral data designed for Embodied AI and Multi-modal Large Model training.

Data Sources

- Head-mounted, chest-mounted, or wearable first-person devices

Data Representations



- Egocentric video streams
- Temporally aligned egocentric observations with action annotations

Typical Applications

- Embodied AI model training
- Vision–Language Model (VLM) and multimodal pretraining

Access & Validation

Samples & Purchase

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Human–Object Interaction Data

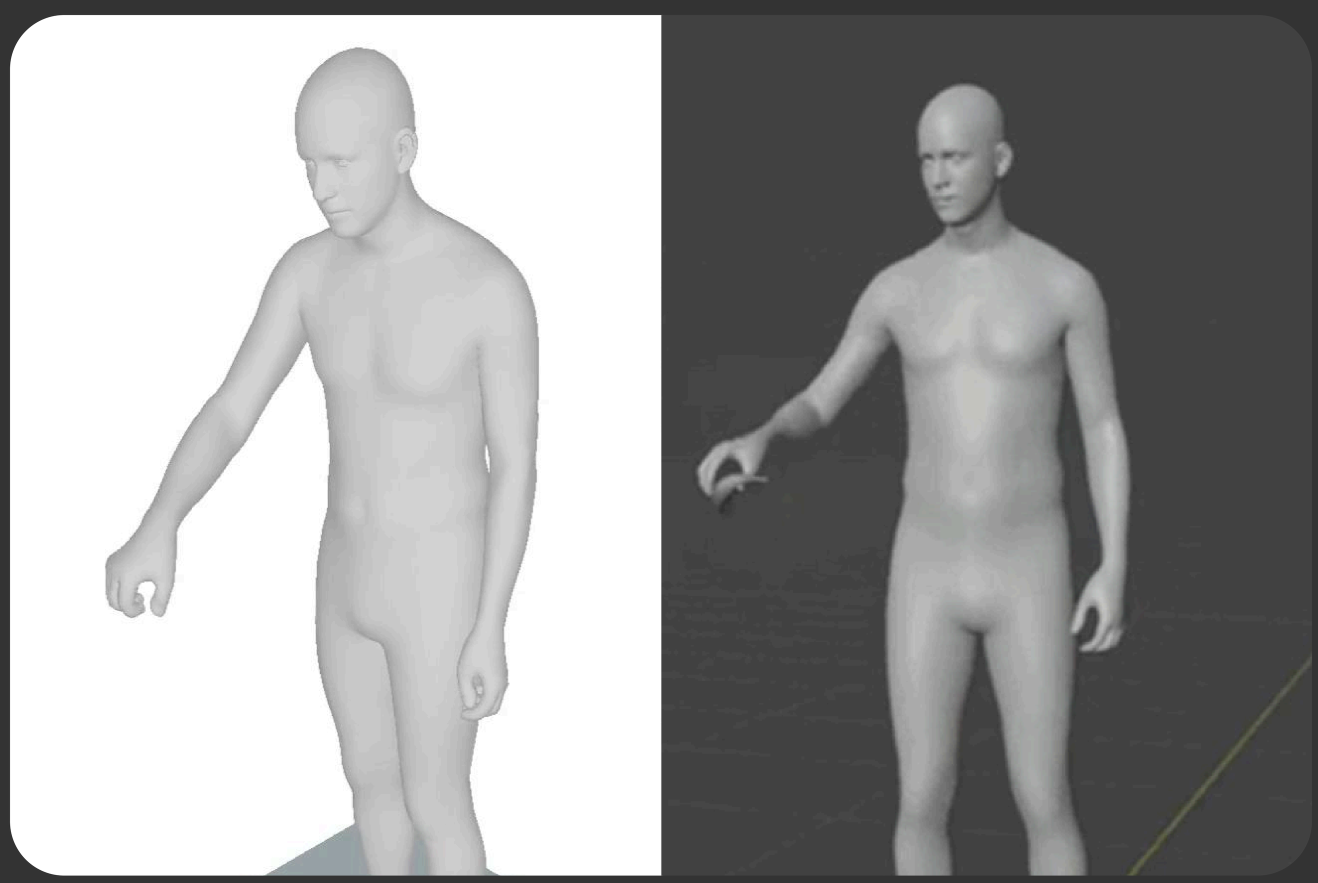
Description

Structured representations of human–object interactions, encoding action annotations, contact states, and object state transitions.

Data Sources

- Human object manipulation
- Multi-view and egocentric observation modalities

Data Representations



- Hand–object relative pose
- Object 6-DoF pose

Typical Applications

- Manipulation understanding and prediction
- Training for robotic manipulation and vision–language models (VLMs)

Access & Validation

Robowheel Paper

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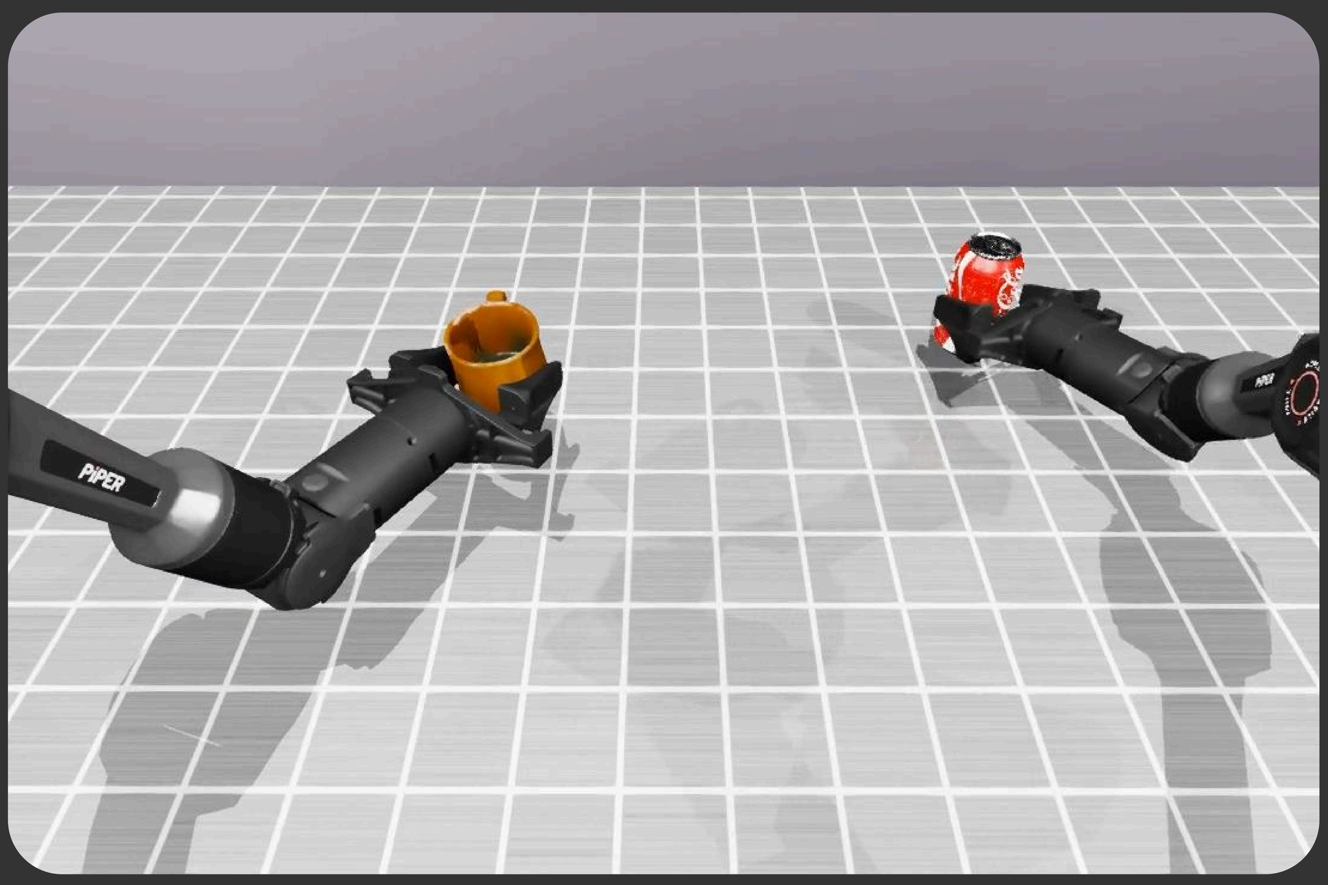
Synthetic & Augmented Data (Optional)

Description

Synthetic and augmented data designed to complement real-world datasets, covering rare, long-tail, or high-risk scenarios.

Data Sources



- Simulation-based and generative systems

Data Representations

- Structured formats consistent with real-world data

Typical Applications

- Dataset scale expansion
- Long-tail scenario coverage

Access & Validation

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Github：
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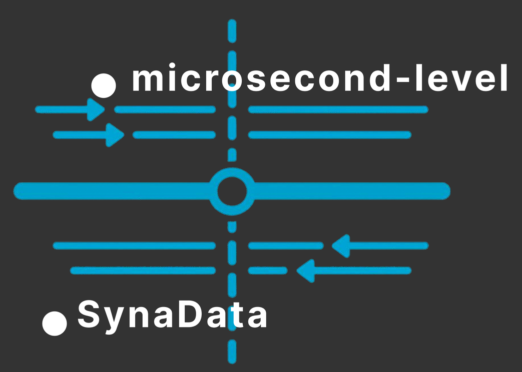
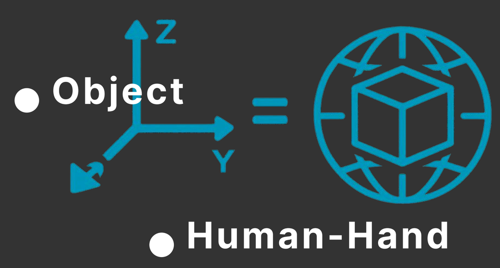
Data Processing & Quality Control

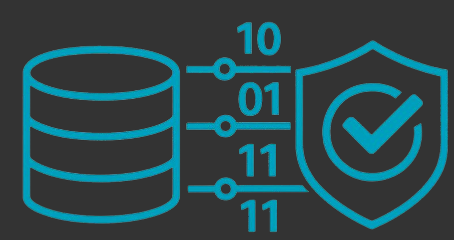
Core Quality Guarantees



TEMPORAL ALIGNMENT



UNIFIED REPRESENTATIONS



DATA CONSISTENCY VALIDATION

TRACEABLE VERSIONING

Data Specifications

Specification	Description
Data Modalities	TCP Trajectory / Object Trajectory / Pointcloud / Tactile / 6DoF ...
Temporal Alignment	Multimodal temporal alignment；Microsecond-level synchronization accuracy
Scenario Coverage	Industrial, Logistics, Warehousing, Retail, Service ...
Robot Support	Cross-embodiment compatibility: Unitree G1, Tien Kung, Q5, and others
End-Effector Support	Xhand / Inspire / Allegro / Shadow ...

Data Consumers

- Humanoid robots
- Service robots
- Robotic manipulators
- Embodied AI models
- Research and benchmarking

Data Delivery

- Standard datasets
- Custom data collection
- Long-term data partnerships

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