

"Fold the short-sleeve top
from the left"

"Fold the short-sleeve top
bottom-up."...

Language Description



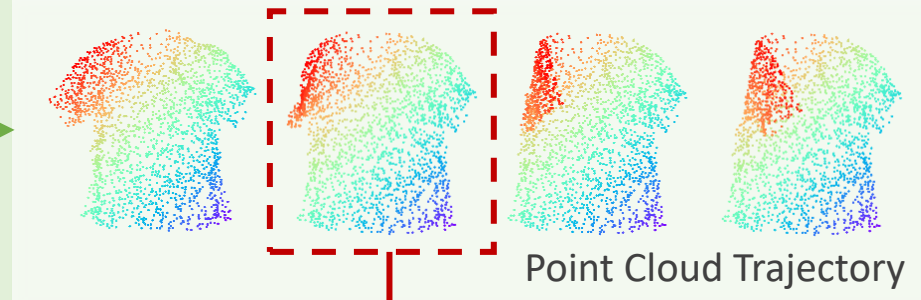
Mesh



Heuristic Folding

Data Generation

DiffClothAI

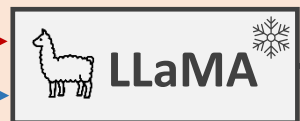


Point Cloud Trajectory

Loss

MLP(4096,...,128)

Training



(1, 4096)

shared

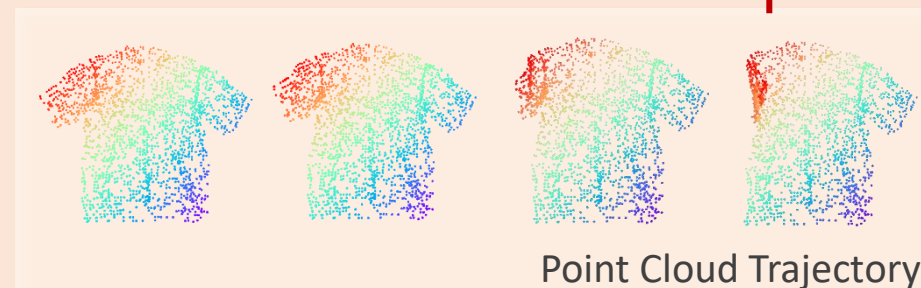
(1, 128)

+

CVAE
Encoder

$Z \sim \mathcal{N}(0, I)$

CVAE
Decoder



Point Cloud Trajectory



Point Cloud Trajectory

--- Train Only

— Train & Test

Trajectory Prediction

Testing

"Please fold a T-shirt,
fold left sleeve first."



Point Cloud
Acquisition



Current State

New State

Robot
Control

Closed-loop Manipulation



Contact & Direction

ManiFM

Testing