Carnegie Mellon University

LEAP Hand V2 is an extremely dexterous hand designed to mimic the human hand: 1) Hybrid Soft-Rigid Structure 2) Articulated Palm

3) Dexterous MCP Joint



A cross-section of the 3D printed finger showing the soft rubber joints, hard PLA bones, and resilient, dense outer skin. The MCP forward is connected by gears to a motor, the MCP side rotates using an embedded motor, and the PIP and DIP joints are actuated together by a tendon connected to a pulley.



The articulations in the palm enables LEAP v2 to grasp more tightly compared to hands without articulated palms such as our DASH Hand. In total LEAP v2 has 17 motors and 21 DOF

LEAP Hand V2 Advanced: Dexterous, Low-cost Hybrid Rigid Soft Hand for Robot Learning Kenneth Shaw Deepak Pathak













LEAP v2 is a 21 DOF 5-fingered hybrid soft-hard hand that is human -sized, strong, and designed for machine learning research.

Bimanual LEAP v2 can be mounted to a robot arm and complete many tasks that humans do in their everyday lives (Photos by Yulong Li and Mohan Srirama)





We will release Manus Glove code that enables anyone to teleoperate LEAP v2 with ease.

LEAP Hand V2 is an open-source robot hand for machine learning:

1) Extremely Dexterous 2) Low-Cost (\$3k) and Easy to Build 3) Strong and Durable

LEAP v2 can be built easily using off-the-shelf tools and a multi-material 3D printer



We will release an accurate URDF/ MJF that can be used in Isaac Gym, **Pybullet or MuJoCo and for** sim2real experiments