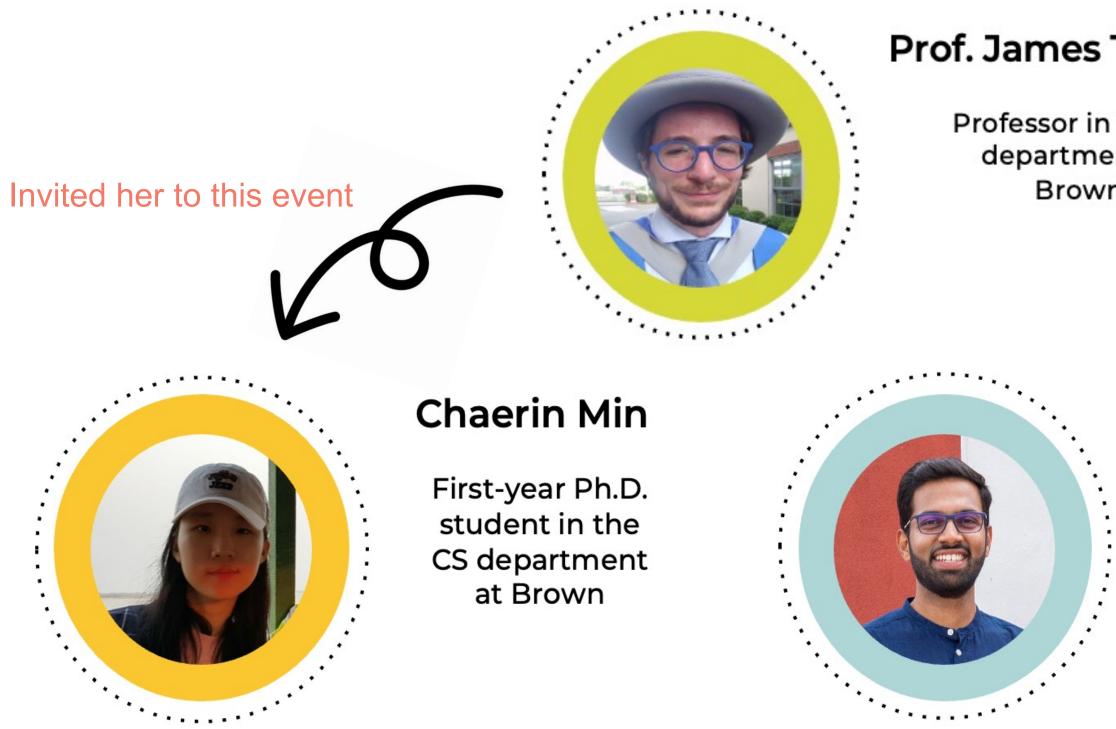


### **Introduce Ourselves**



### **Existing Problem Statement of Hand Grasping**

ြာစို

Model



**3D Object** (You should prepare)

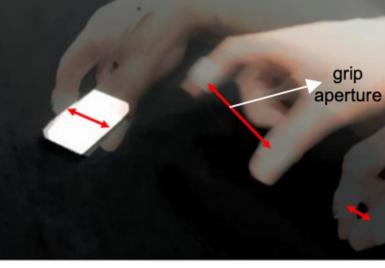


(synthesized) Object grasping

## **Potential Applications**

#### **Contibute to Computational** Cognitive studies

Given hand poses, can we build a model that produces the same results with human prediction of objects?



### Practically

Intellectually

🕨 Virtual Reality 🏾 🌾 Given your real hand, synthesize virtual objects in the virtual world.





Egocentric Image Editing Conditioned on your own hand, add a new object on it

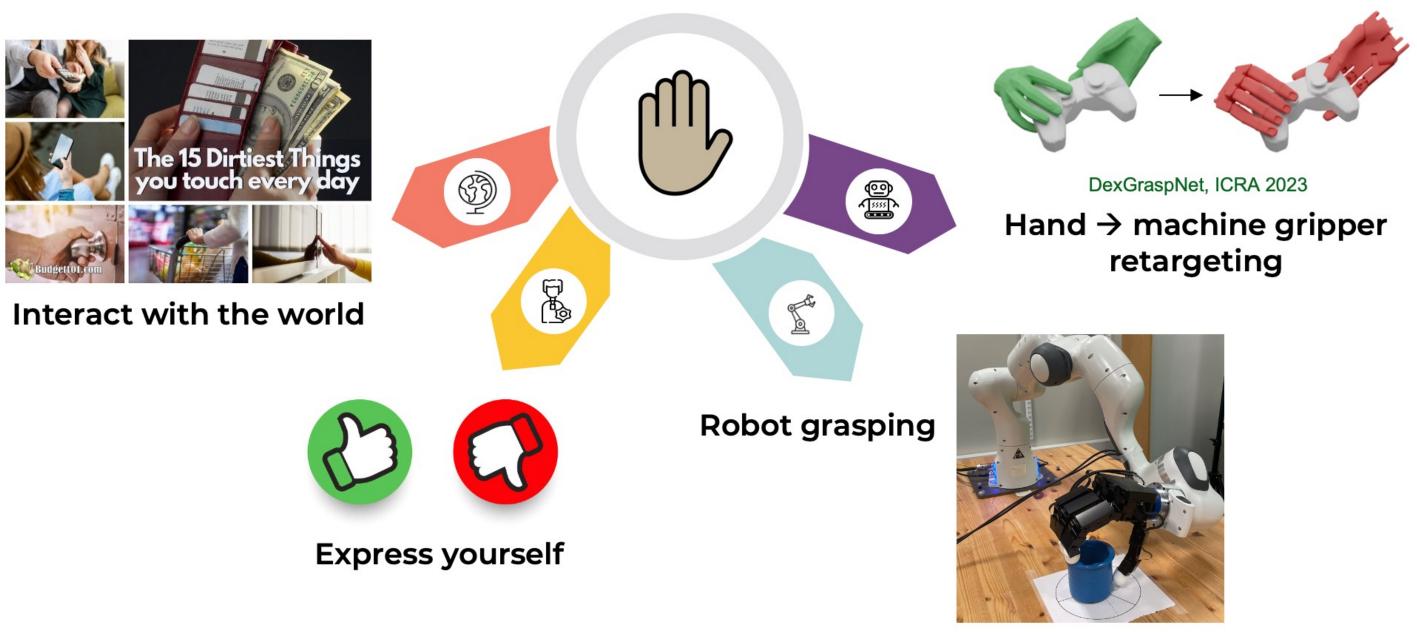
This work from Brown IVL is partially supported by NSF, AFOSR, ONR, NASA, Meta, Amazon, and Google.

# **GenHeld: Generate Held Objects**

# Hand is an important research problem



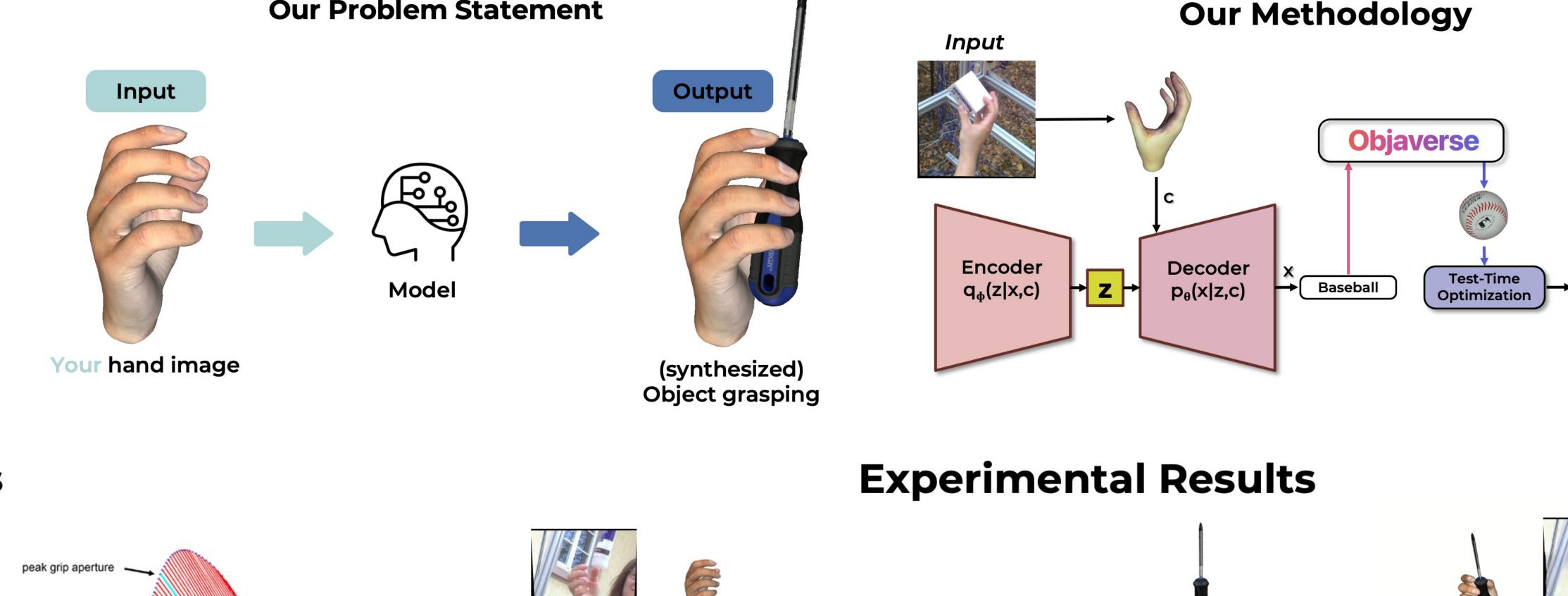
Professor in the CS department at Brown

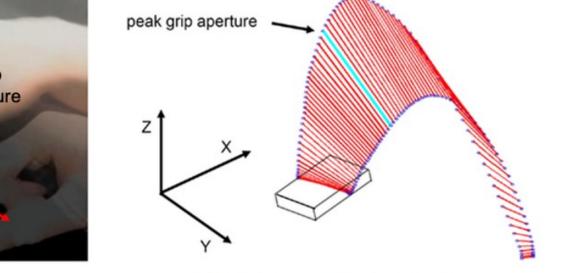


### Prof. Srinath Sridhar

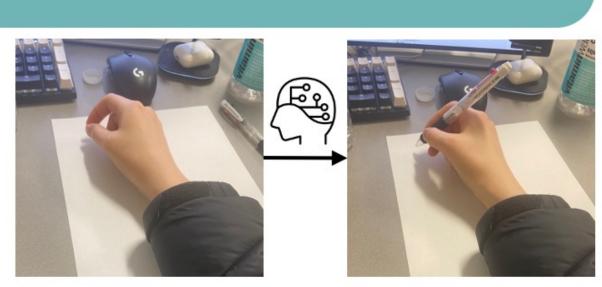
Chaerin's Ph.D. advisor. Assistant Professor in the CS department at Brown

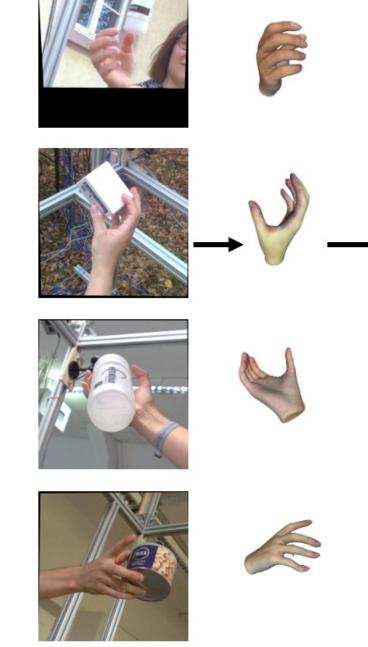
### **Our Problem Statement**





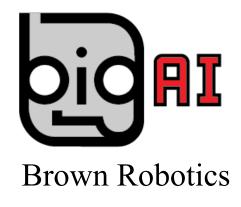
An earlier work which tried to answer this question. Frontiers in neurology, 2014





Input Reconstructed hand





Dexdiffuser, ArXiv 2024

# Encoder q<sub>¢</sub>(z|x,c) Decoder p<sub>θ</sub>(x|z,c) Test-Time Optimization Retrieved Output object AFORE UPFICE OF BACING OF TACING OF









