



## **CORSMAL**

# Collaborative Object Recognition, Shared Manipulation And Learning

### Scope

Exploring the fusion of multiple sensing modalities (touch, sound, and vision) to accurately and robustly estimate the physical properties of objects in noisy and potentially ambiguous environments

Designing a framework and creating a dataset for recognition and manipulation of objects



### **Objectives & Challenges**

- to infer object content by observing the way the human manipulates it
- to decide the parameters for grasping (grasping points, stiffness) based on inference of the content
- to adapt grip if the object slips

Variability of physical & visual properties of objects

Uncertainty in spatial & temporal context, changes in viewpoint

Perturbations, e.g. sensing & grip uncertainties, object occlusions

Learning from scarce observations

Real-time re-planning

#### **Partners**







#### Team



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#### **Sponsors**











