

3D Scene Understanding from Unordered Depth Images

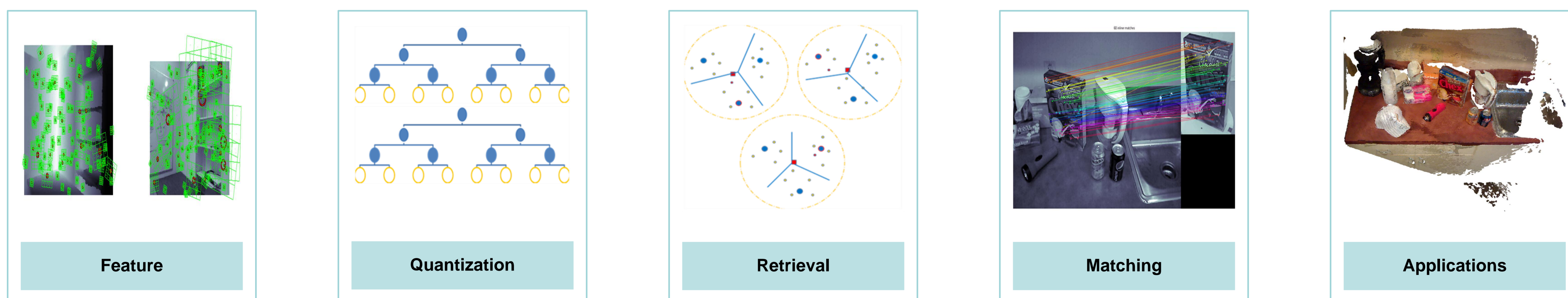
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Abstract

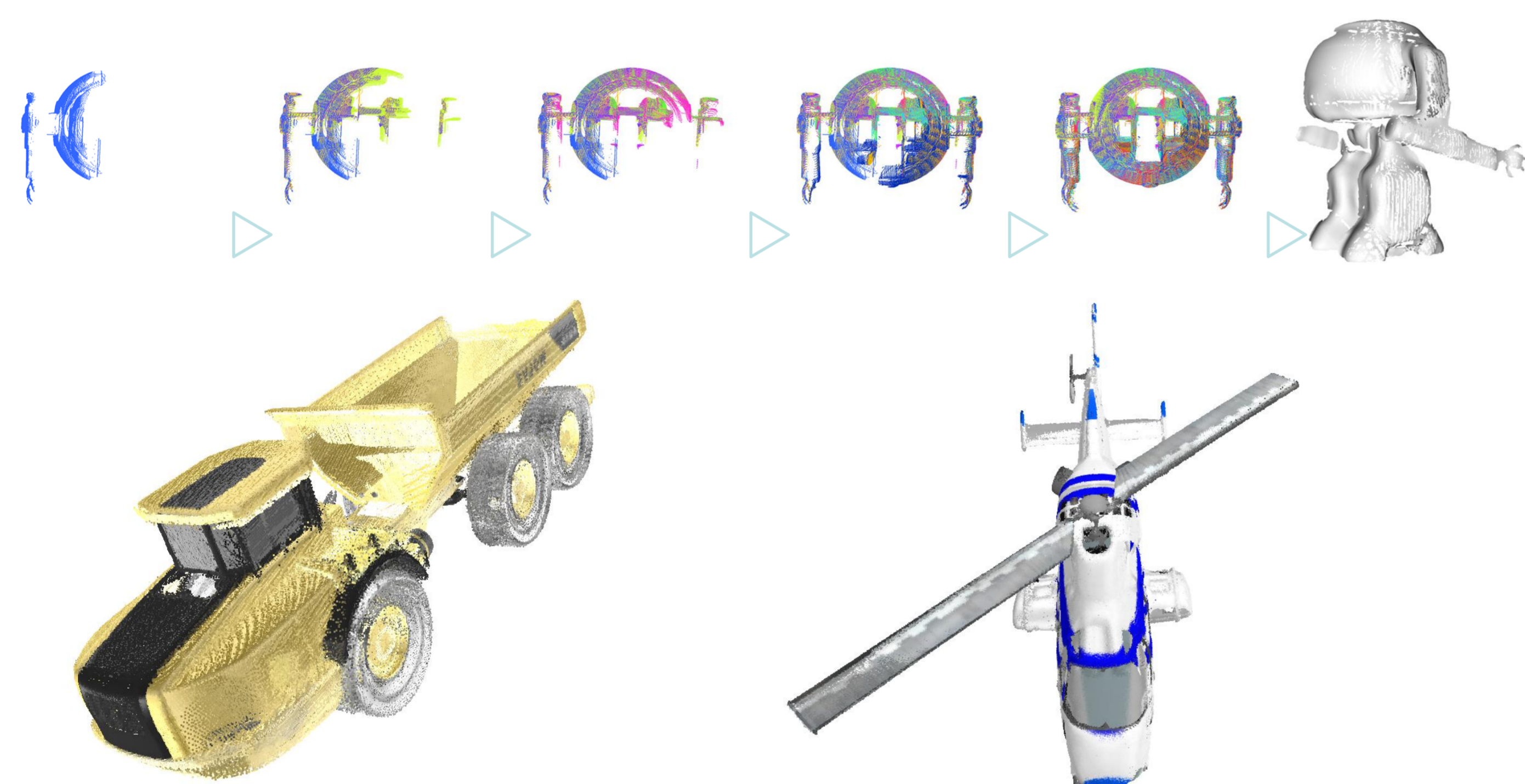
The aim of this project is to explore new algorithms for 3D scene understanding (object detection, segmentation, recognition, etc.) from depth image acquisition devices. The difficulty lies in the quality of the input data (partial scans, unordered sequence, occlusion, and cluttering).

Organize Unordered Images

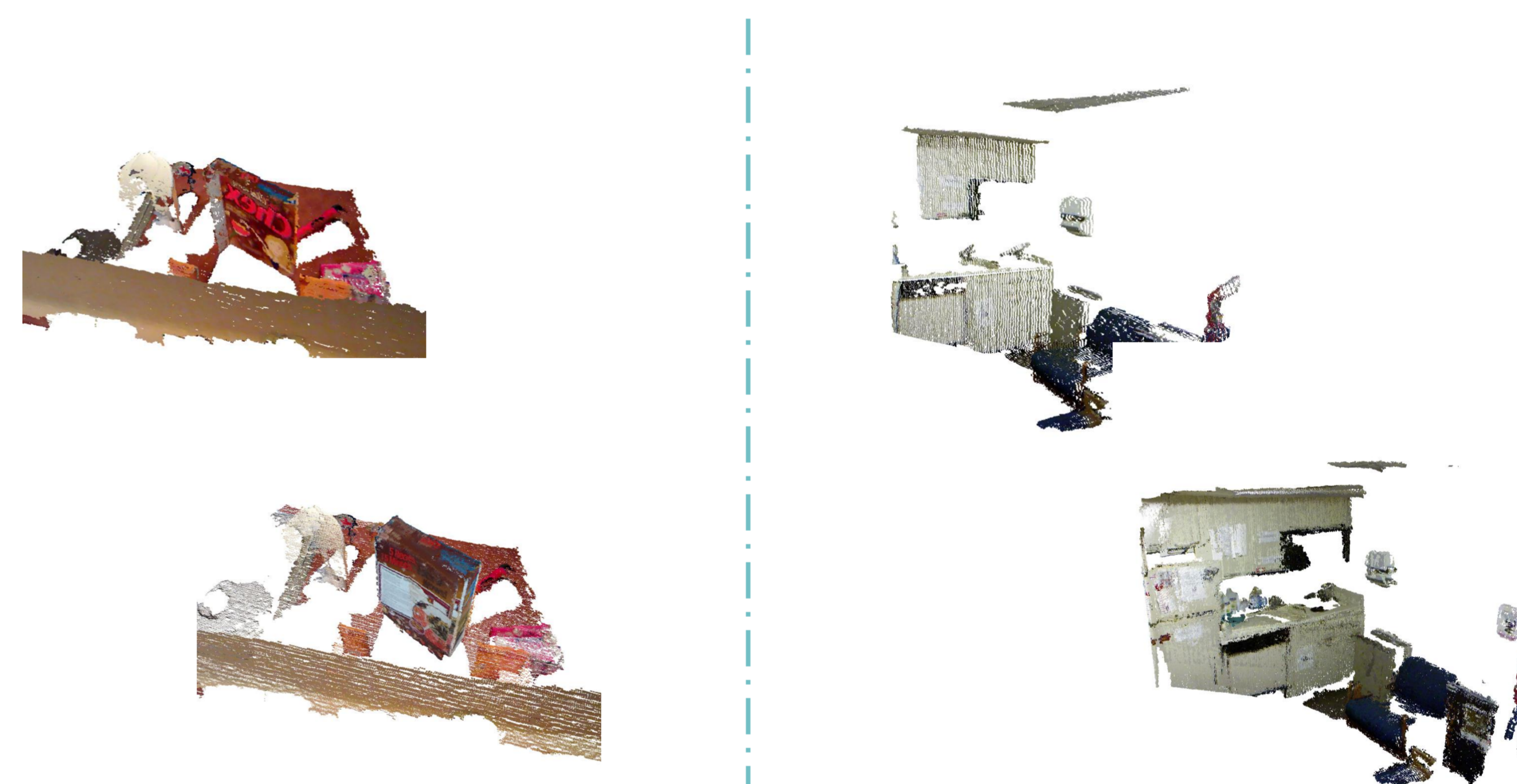
Core pipeline: local feature based fast retrieval and matching.



Application 1: Incremental Registration



Application 2: Scene/Object Completion



Detection/Recognition

We use a voting-based algorithm to train and detect a specific object category (here the cereal box).

