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RBE549 - Computer Vision

Group Project Proposal

**Object Identification and Tracking**

Robots are quickly becoming a staple in everyone’s living room with the likes of Alexa and Google Home. These first wave household assistant robots primarily focused on verbal interactions. Computer vision is becoming a crucial aspect of these robots and Jibo, a robot out of the MIT Media Lab, is showing that. The goal of this project is to start the foundation of a lab assistant robot that has the capability of tracking common items found on a workbench in “real-time”. A top-down viewing camera positioned over a desk with complete observability of the workspace will be utilized to track the trained objects. Machine Learning/Deep Learning programmed in python and making use of libraries such as OpenCV and TensorFlow will be employed in the object identification and tracking. Data sets will be generated by taking video of the trained objects and capturing the frames. The end intent is to have this running on a small device such as a Raspberry Pi, but may be restricted to a computer during this phase.