

# **Erik Stone, Electrical & Computer Engineering**

Year in School: Senior

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## **Building 3D SIFT point clouds for object recognition**

In this project, we explored using the Scale Invariant Feature Transform to build three dimensional point clouds for object recognition. To create the point clouds, an object is placed on a lazy susan and pictures are taken at 15 degree increments using a single web camera. The Scale Invariant Feature Transform is then used to match keypoints between images, and a position in three dimensional space is calculated. The SIFT keypoints comprising the point cloud model of the object can then be added to a database for matching.