Blind Walker
For our project we decided to create the “Blind Walker”. As people grow older, they begin to struggle with things like vision loss, and eventually need a walker or a cane to help navigate their areas. However, what about blind people who grow elderly? It is increasingly more difficult for them to be able to navigate areas safely. For our project, we plan to build a special walker that implements Computer Vision to help people with vision impairment to understand and navigate their surrounding area. Bajwa is knowledgeable of machine learning which includes a lot of comp vision and digital signal processing.
We will use a Raspberry Pi as a microprocessing unit in junction with the Microsoft Kinect (source for computer vision), a few haptic motors (for feedback), and proximity sensors (very basic, is something going to bump into you, from the sides or from the back) in order to help the user properly navigate their surrounding areas.
The device would scan the area, understand/classify its surroundings, and then navigate appropriately. An earpiece will be connected to relay messages. We can include option for earpiece to relay directions (“turn left”) instead of relying on haptic feedback alone. Start with a wired headset, move to Bluetooth later.
3D print a box that contains the Raspberry Pi and whatnot and attaches onto walker, to make the entire unit standalone.