



Hand Gesture Recognition

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Overview

The project aims to build a basic IOT device which recognises hand gestures using the motion processing sensors

Specifications

The project uses an **Arduino UNO** and **MPU 6050** (accelerometer & gyroscope), inputs from the MPU is fed into the machine learning algorithm.

I. Training / Calibration Phase

We use **SVM** (Support Vector Machines) classifier as the machine learning model. The application starts by calibrating gesture inputs for **n** user labelled gestures. Each **label** corresponds to a gesture. The gesture input values and labels are fed into the model as training data.

II. Prediction / Output Phase

Once the training process is completed the model is exported and the program is switched to prediction mode. The inputs from the MPU is passed as inputs to the model and the predictions are displayed on a 16 X 2 LCD display.

The accuracy of the model was observed to be **90-95%**.

Applications

1. Can help people with disabilities in speech and motion (paralysed).
2. Can be used to control various devices & applications such as Music system, Computer, TV, Games etc.