Hello all, I am Nayan Patel. In this video, I will explain about my project working modal “Height measuring device”.

It is a device which use measuring height of object which perpendicular to the ground like wall, pole etc.

We can measure height if we have two parameters distance and angle. The formula for find height with the help of distance and angle is tan(x) = Perpendicular height / base.

That’s means, perpendicular height = tan(x)*base.

Where x is the angle of the object head to the ground and base is equal to distance.

This simple concept is used form making this device.

The components used for making this device is microcontroller Arduino uno, potentiometer, ultrasonic sensor hc-sr04, servo motor and Liquid Crystal Display.

This device measure distance between object to the device itself with the help of ultrasonic sensor HC SR04 and angle with the help of servo motor, potentiometer and leaser light system.

Servo motor change angle as we rotate knob of potentiometer.

We arrange that the beam of leaser light is project on the head of the object.

After gating distance and angle, device as a programmed that it calculates height using tangent formula and print on LCD in unit centimeter.

The refresh rate of this device is around 600Hz. Which means it measure height once take 0.1 second.

This device useful for civil engineers and we can masur height of tilted objects with using same extra mathematics and which we use in rovers.