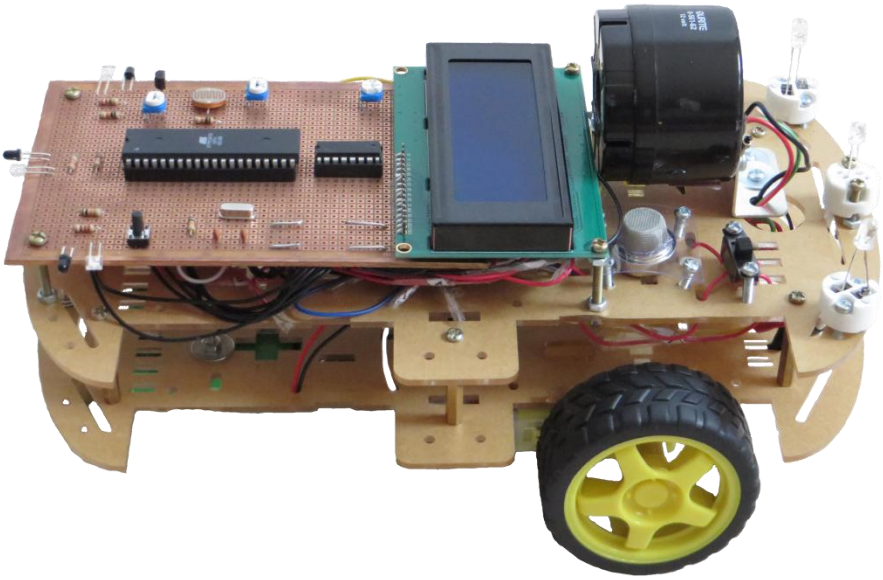
# ClimateRobo

*An autonomous intelligent mobile robot for climate purposes*



ClimateRobo is an autonomous intelligent mobile robot for climate purposes, which notifies the weather condition based on environmental data. An ATmega32 microcontroller is used to measure temperature, gas, light intensity, and distance to obstacles using the LM35DZ, MQ-2, photocell, and infrared (IR) sensors. A utility function is proposed to calculate the weather condition according to the temperature and gas data. Afterwards, the weather condition will be monitored on a liquid crystal display (LCD), an appropriate light-emitting diode (LED) will be illuminated, and an audio alarm would be enabled when weather condition is emergency as well as ambient brightness is high. The ambient brightness is calculated by a proposed supervised machine learning using sensed data of the photocell sensor. A fuzzy decision system is proposed to adjust the speed of DC motors based on weather condition and light intensity. The robot can detect and pass stationary obstacles with the six reflective sensors installed in the left, front, and right sides under six detection scenarios. The robot, initially, is simulated in the Proteus simulator and, then, is implemented by electronic circuits and mechanical devices. It would be used in the future by bureau organizations, rescue teams, etc.