

Comparison of miniUGV with existing platforms

| Sr. no. | | 1 | 2 | 3 | 4 |
|--------------------|------------------|-------------------------------|-------------------------------------|----------------------------------|------------------------------------|
| Robot name | | Pololu Zumo | Nvidia Jetbot Ai | Turtlebot Burger | Proposed - miniUGV |
| Structural | Weight | 160 grams | | 900 grams | 350 grams |
| | Size | 100x100x45 mm | | 138 x 178 x 192 mm | 130 x 120 x 55 mm |
| | Drive type | Differential with track drive | | 2 Differential drive + 2 castors | 4 wheel drive |
| Sensors | Monocular camera | No | 8 MP ; 30/60 FPS ; Monocular camera | No (can be added) | 5 MP ; 30/60FPS ; Monocular camera |
| | IR | 2 front ; 1 left ; 1 right | No (can be added) | No (can be added) | 2 front |
| | LIDAR | No | No | Yes | No |
| | IMU | 6 DoF IMU | No (can be added) | 9DoF IMU | 6 DoF IMU |
| Communication | | No | Wifi/Bluetooth | Wifi/Bluetooth | Wifi/Bluetooth |
| Actuator / Display | | Buzzer / OLED display unit | OLED Display | No | EPM - electro-permanent magnet |
| Computation power | | Atmel microcontroller | Cortex-A57 + 128 Core GPU | Rpi 3 b + OpenCR | Rpi zero W + ESP 32 |
| Battery type | | 4x AA Alkaline battery | Li-ion/Li-Po/Portable power Bank | Lipo Battery | 2x 18650 Li-ion battery |
| Operation time | | 45 mins | 65-90 mins | 85-110 mins | 30 mins |
| Programmable | | Arduino platform | Debian platfrom / ROS | Debian platform / Arduino / ROS | Debian platform / ESP-IDF / ROS |