UE22CS251B: MPCA

<Human-Following Robot>

<This project presents the design and development of a low-cost, Arduino-based human-following robot capable of autonomous navigation using a combination of ultrasonic and infrared sensors. The robot is engineered to track and follow a human target while detecting and avoiding obstacles in real-time. Built on an acrylic chassis powered by 18650 Li-ion batteries, it employs TT gear motors controlled via a Motor Driver Shield for smooth movement. The integration of one ultrasonic sensor for distance measurement and two IR sensors for surface detection enables adaptive, environment-aware navigation. With potential applications ranging from personal assistance and home automation to security and retail services, this robot serves as a foundational platform for learning and future innovations in robotics and embedded systems.
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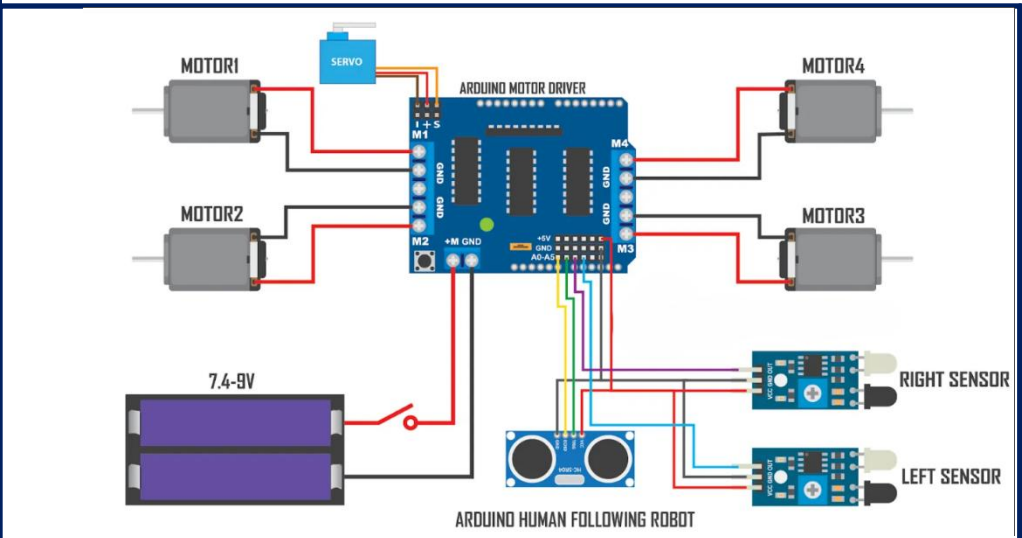

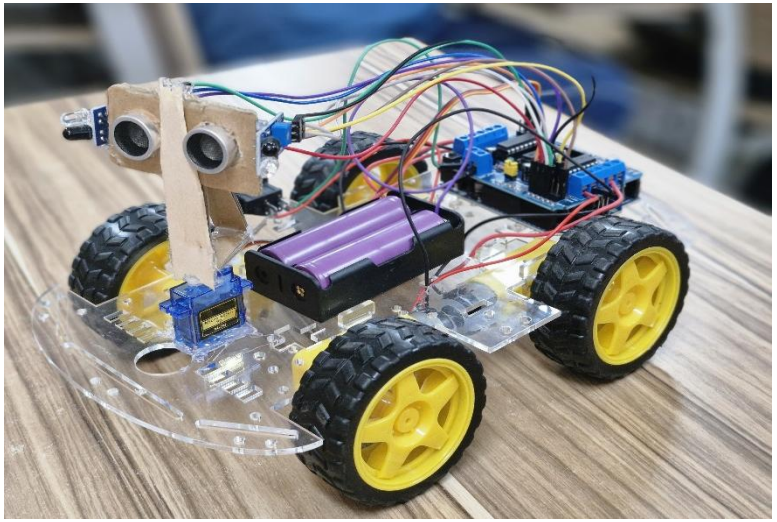

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