Remote Controller Strategy For Cycle Robot

A remote controller is to be designed to navigate the cycle bot. Things to be controlled:

1. Forward/backward motion
2. Left/right rotation of handle

To make controlling simple, 2 joysticks are used. Considering 10bit ADC, (0-1023),

1. Y reading of right joystick is used to control forward/backward motion.
   PWM given to motor is |reading-512|/2, and direction will be:
   - CW if reading<512
   - CCW if reading>512
2. X reading of left joystick is used to control angular position of servo(handle).
   Position of servo is set as (reading-512) *(30/1024). This will keep the handle constrained between $\pm 30^{\circ}$.