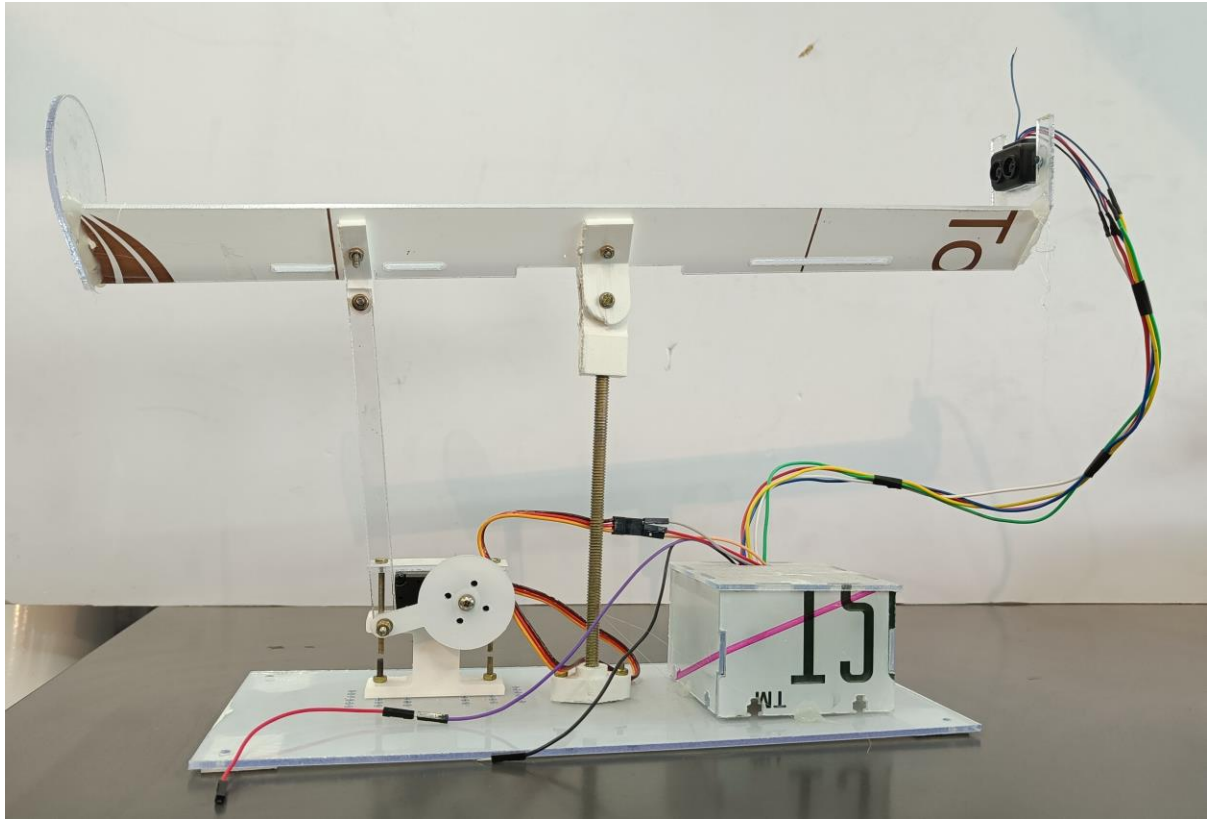


Ball Balancing Robot



Project Summary

The Ball Balancing Robot is an educational robotics project that demonstrates the practical implementation of a PID control system. Using an Arduino Nano, TF-Luna LiDAR sensor, and MG995 servo motor, the robot continuously balances a ball at the center of an acrylic beam. Three potentiometers allow real-time tuning of the PID parameters (K_p , K_i , and K_d), making it an effective hands-on platform for teaching embedded systems, control engineering, and robotics.