

# GOLF BALL TRACKING AND INTERCEPTING SYSTEM

PROJECT MEMBERS: ISHAK LAMEI, PETERSON RAINEY, STEVEN TUCKER, AND AUSTIN WILLIAMS



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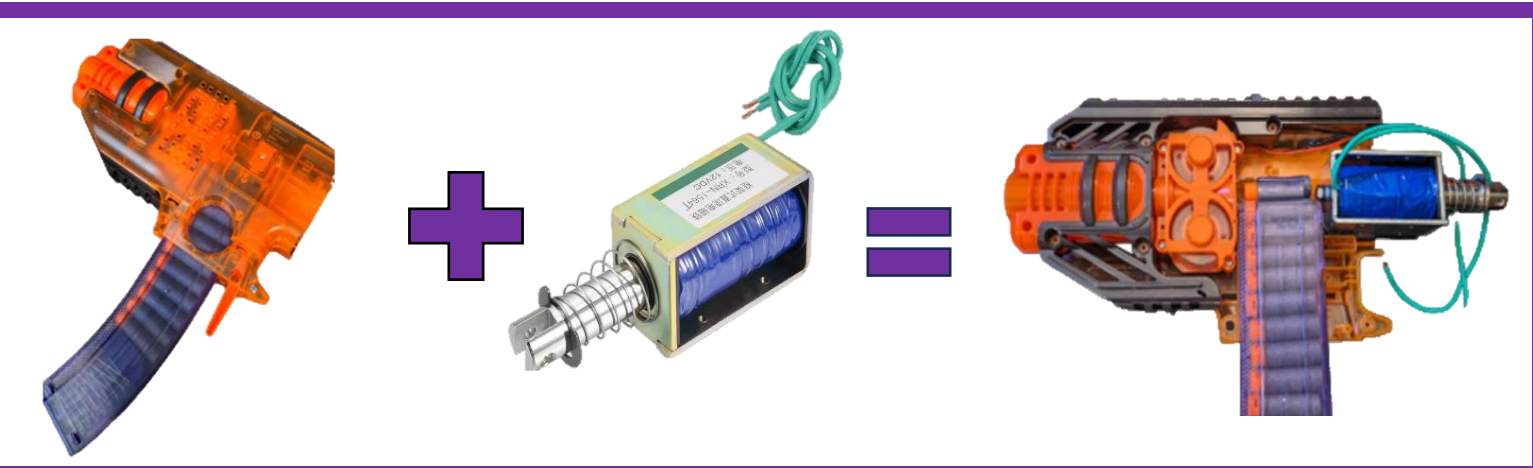
## COMPLETED SYSTEM

### LAUNCHER SYSTEM CONSTRUCTION

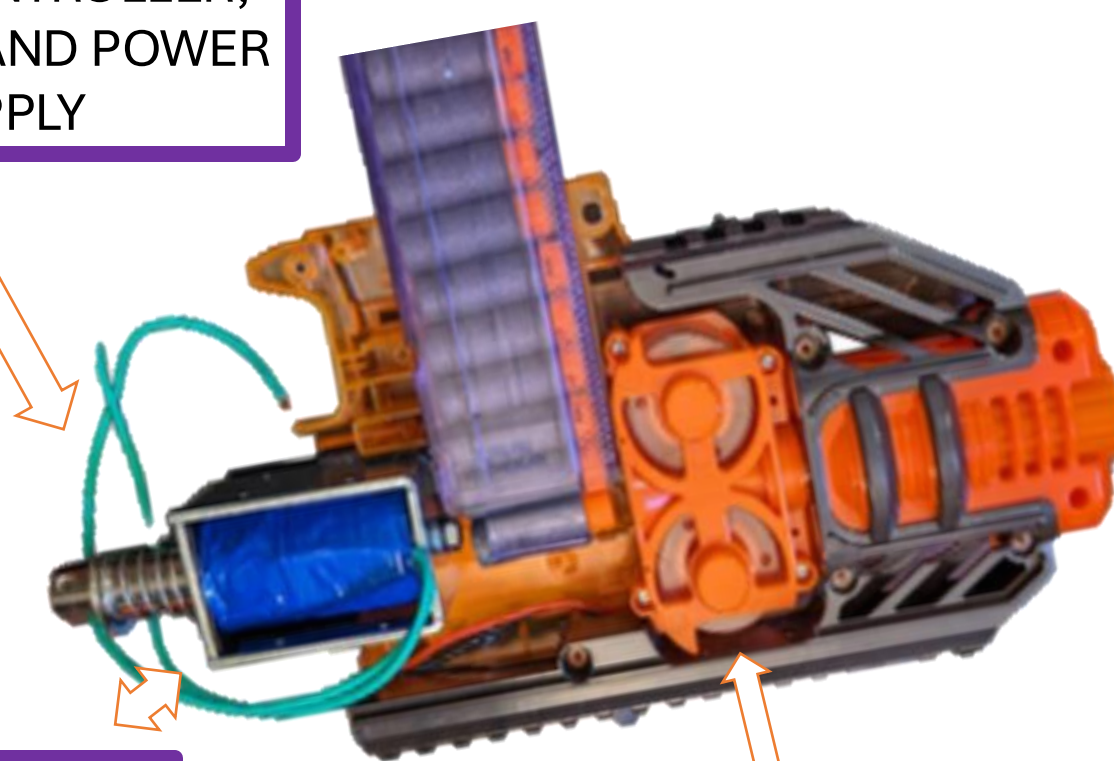
BLASTER CUT DOWN FOR 1 FT<sup>3</sup> BOUNDARY CONDITION



SOLENOID FIRING MECHANISM ADDED



WIRES CONNECT TO SPEED CONTROLLER, ARDUINO, AND POWER SUPPLY



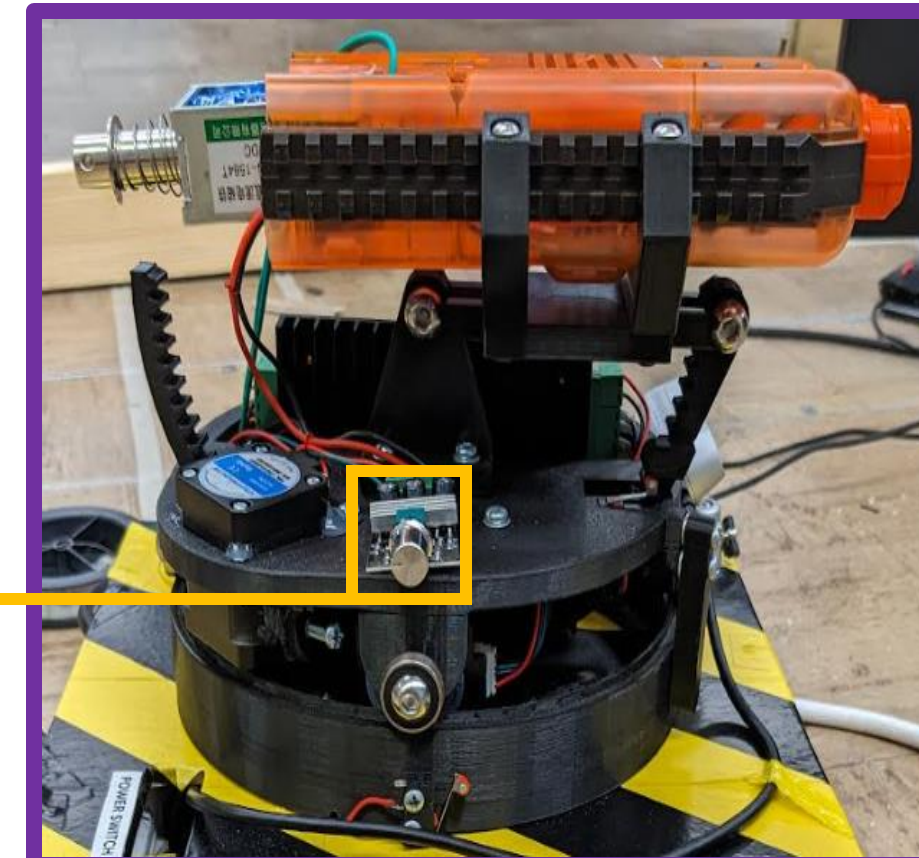
SOLENOID PUSHES DART INTO FLYWHEELS

FLYWHEELS LAUNCH DART

**MISSION :** DESIGN, FABRICATE, AND DEPLOY A FULLY AUTONOMOUS TURRET SYSTEM TO DEFEND FROM RAPIDLY INCOMING GOLF BALLS.

**PRIMARY OBJECTIVE :** TO EDUCATE AND ENLIST AID FROM YOUNGER CITIZENS AND ADD THEM TO DEVCOMS COMMAND

KNOB ADJUSTMENT FOR FLYWHEEL MOTOR SPEED



INTEL REALSENSE DEPTH CAMERA D435

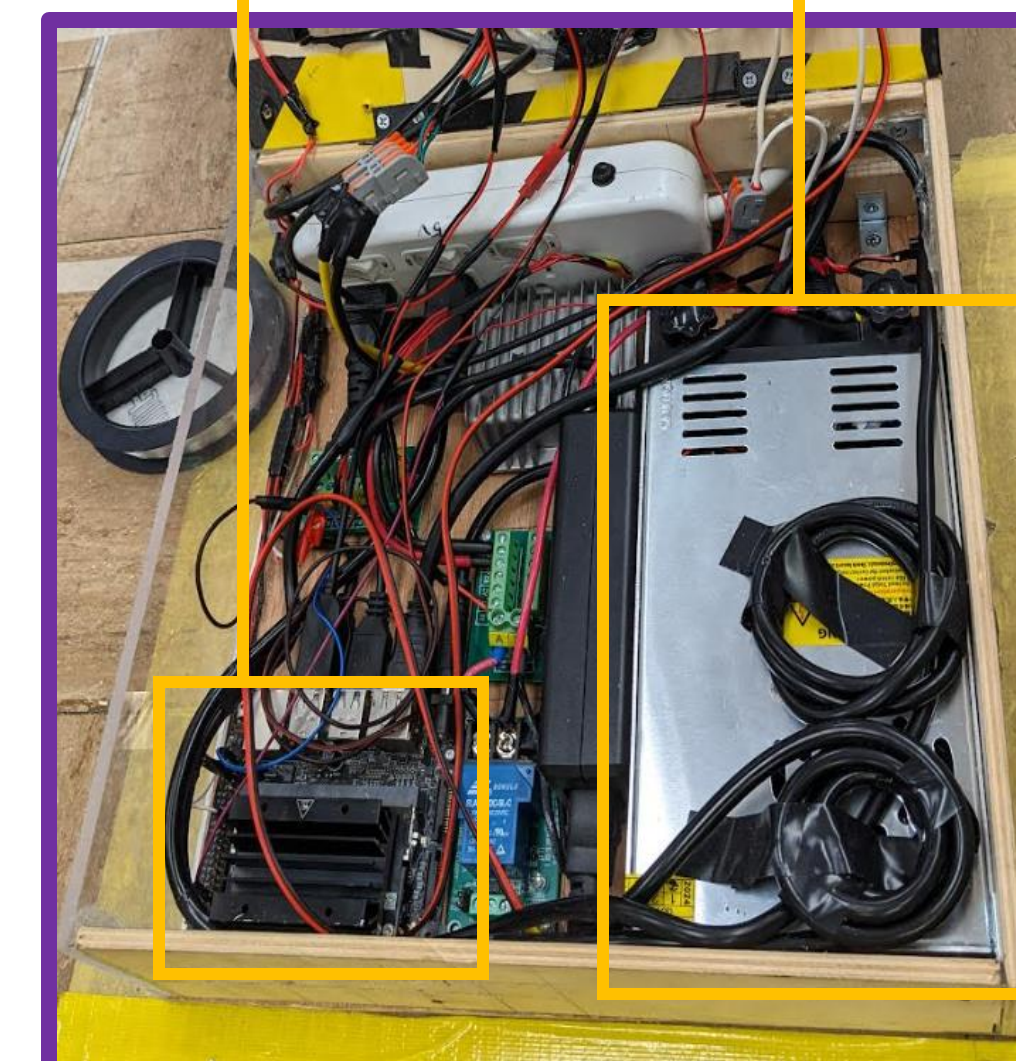
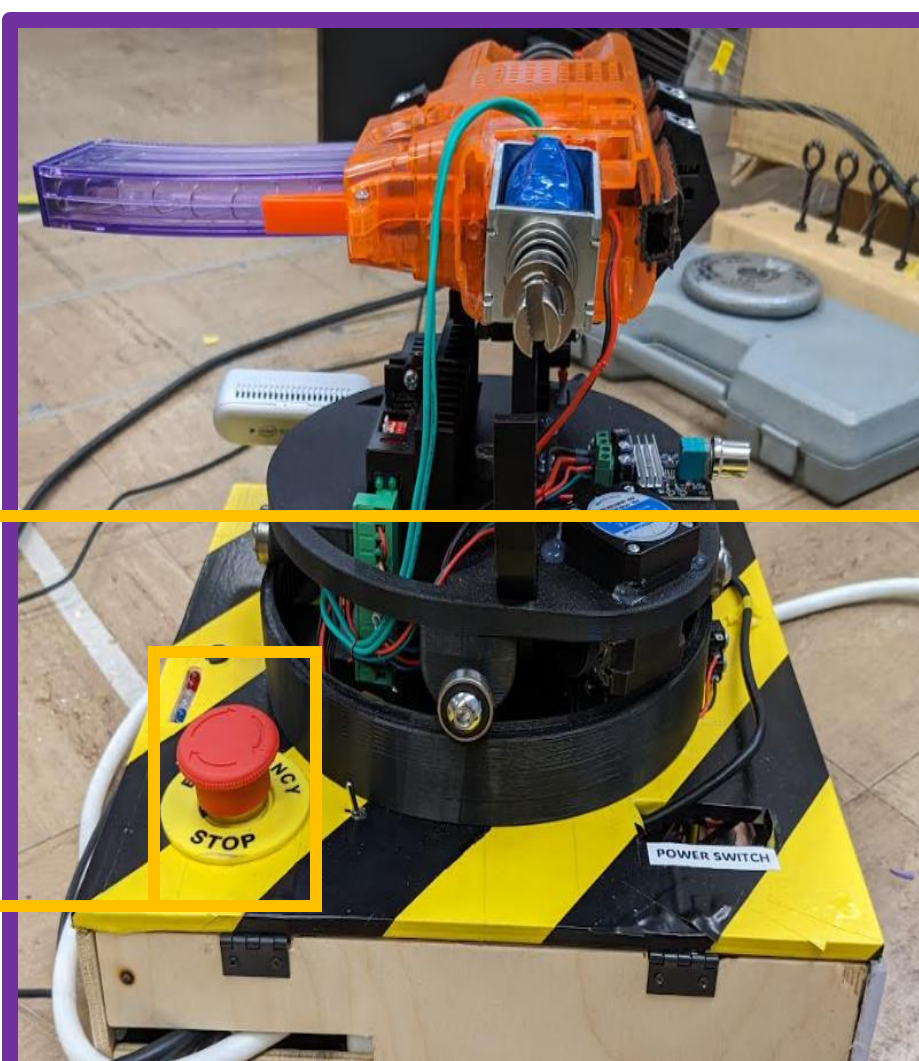


POWER SUPPLY

JETSON NANO

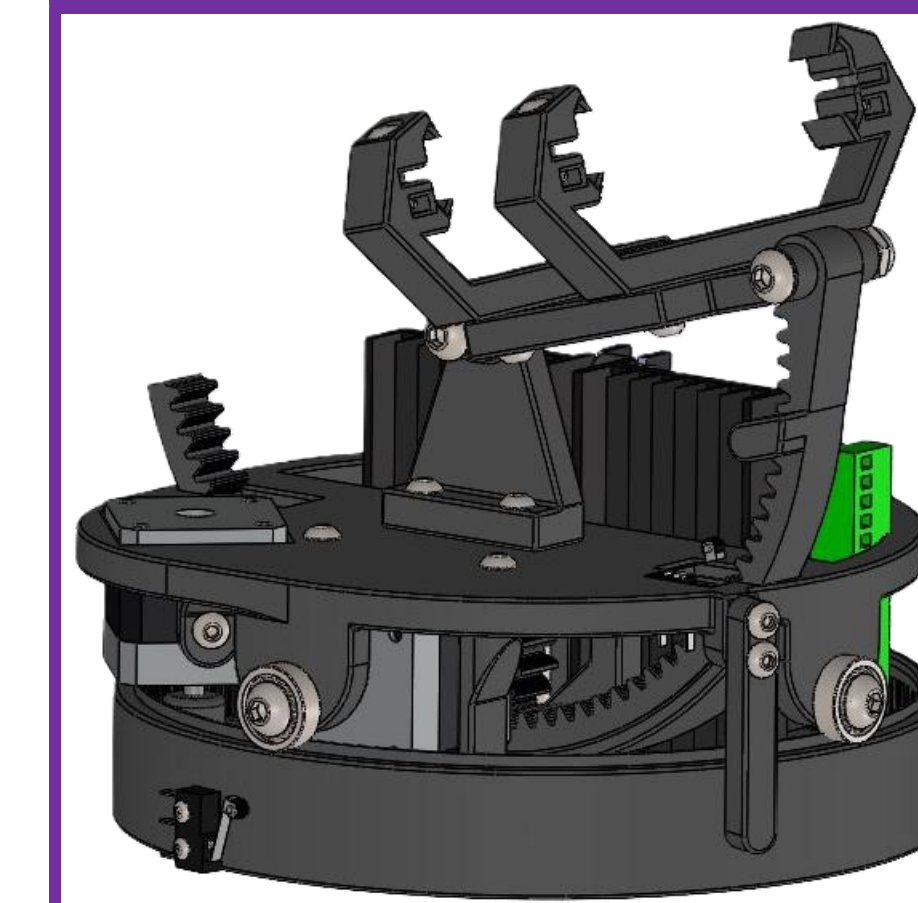
INDICATOR LIGHTS AND BUZZER

EMERGENCY STOP

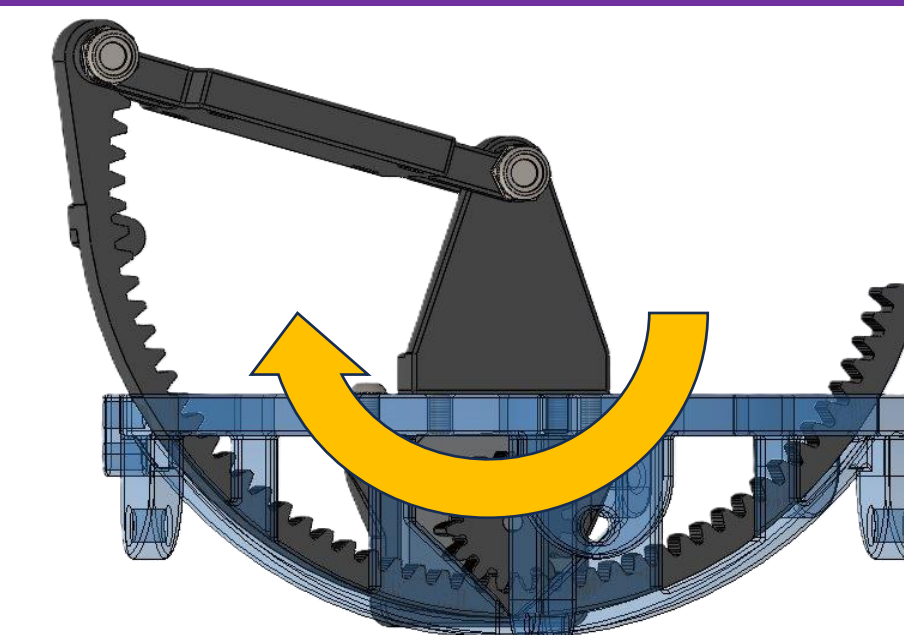


### LAUNCHER MOVEMENT SYSTEM CONSTRUCTION

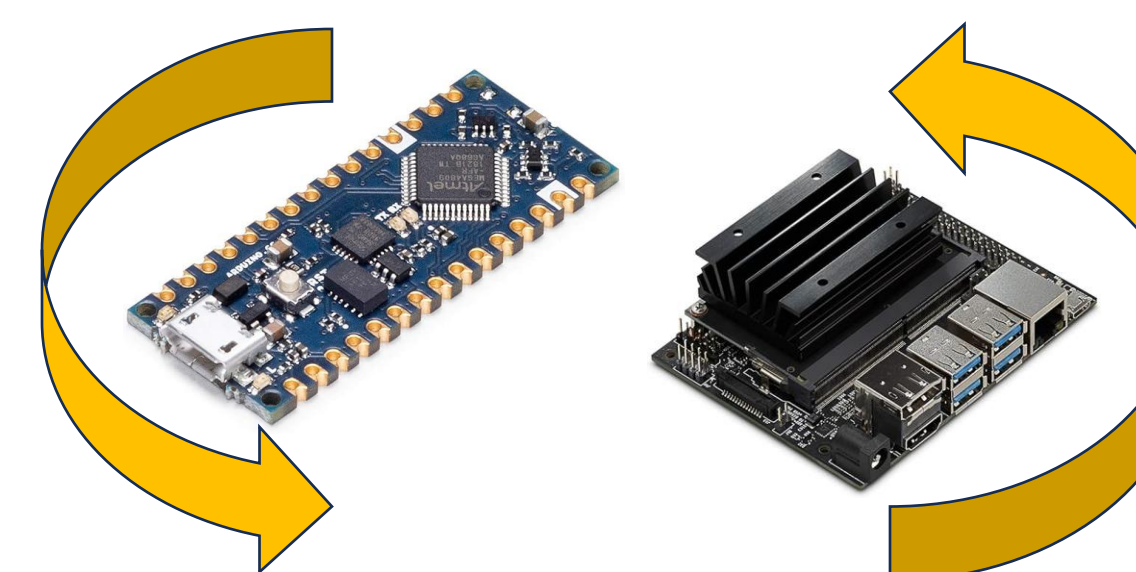
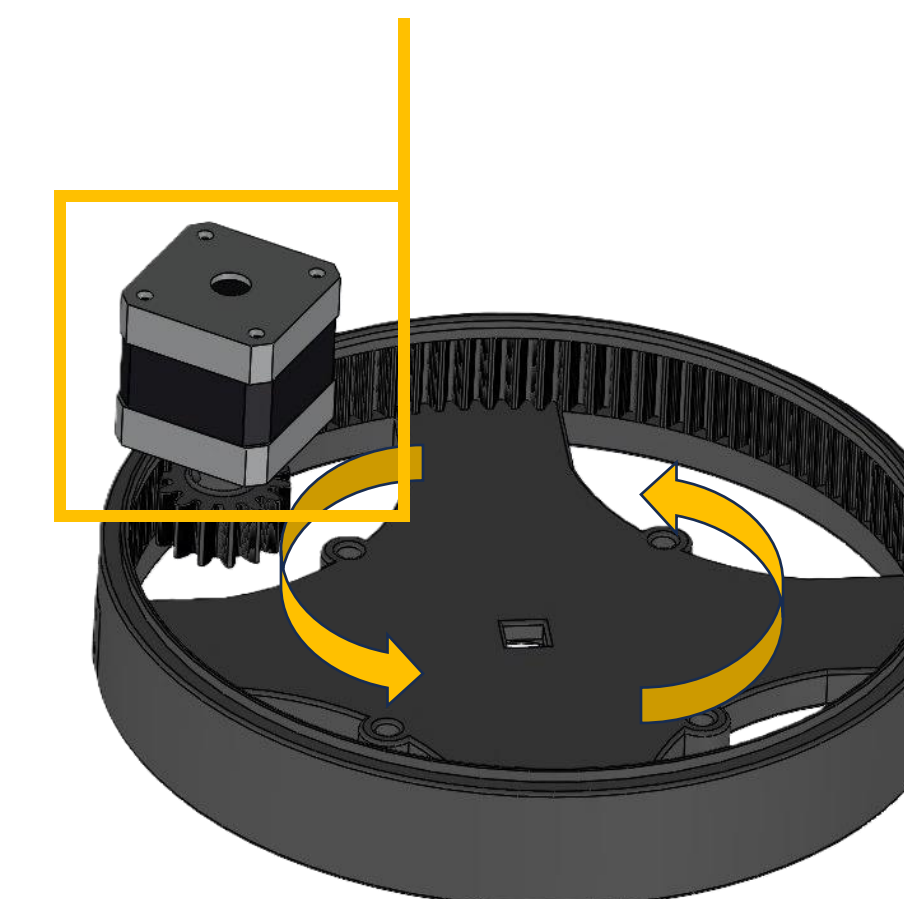
THE MOVEMENT SYSTEM IS POWERED BY TWO NEMA 17 STEPPER MOTORS CONTROLLED BY TWO TB6600 MOTOR DRIVERS



THIS MOTOR CONTROLS THE LAUNCHERS ELEVATION BY TURNING THE OUTER GEAR TO THE LEFT OR RIGHT



THIS MOTOR CONTROLS THE LAUNCHERS DIRECTION BY TURNING THE SMALLER GEAR



ARDUINO EVERY

JETSON NANO

THESE DRIVES ARE CONTROLLED BY AN ARDUINO EVERY THAT RECEIVES SIGNALS FROM THE JETSON NANOS IMAGE PROCESSING.

EACH AXIS HAS A 5:1 GEAR RATIO WITH THE MOTOR SIDE HAVING 15 TEETH AND THE BASE HAVING 75 TEETH

THE MOTORS ARE GEARED THIS WAY TO INCREASE THEIR CONTROL AND TORQUE