



# QZONE 4611 ROBOTICS

## BOT PROFILE: TRIDENT

### CAPABILITIES

- Coded in Python: Allows for efficiency and adaptability
- Automated Coral Scoring System (L1,L2,L3,L4)
- Dual Intake System: Collects Coral and Algae from ground and Coral Station
- “Dealgify” Reef & Score Algae in Processor
- Deep Climb: 3 Pronged “Trident” Design maximizes consistency
- Automated Reef Alignment: Scoring and alignment precision

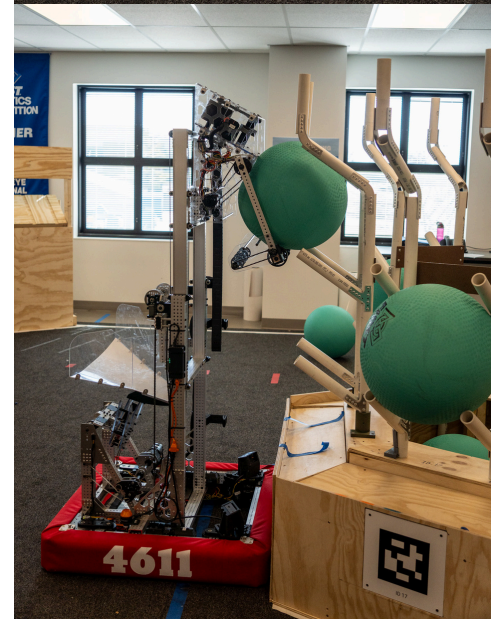
### SCORING/ INTAKE

Our bot features a fully automated L1-L4 Coral scoring system. This allows for precise and consistent scoring.

- Primary Intake flips up to expose climber, keeps robot compact and efficient
- Secondary intake allows for algae scoring and L1 Coral Scoring through one mechanism

### CLIMBER

Our 3 pronged climber design is the namesake of our bot, “Trident” and is equipped with deep climb capabilities.





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## REEFBUILDER APP

### SIMPLIFYING AUTONOMOUS AND TELEOP CONTROL

The REEFBUILDER app enhances programming efficiency for creating Auton and bot paths. Developed by our students, this application streamlines driver operations, reducing workload for both main and auxiliary drivers.

Key Features:

- Aux Driver operated via Touchscreen, able to relay positioning info to main driver and auto-align to reef.
- Low-latency control: 3-5 millisecond input delay
- User-friendly interface: Touchscreen UI for seamless navigation

### REEFBUILDER AUTON

Efficient & Adaptive Autonomous Control

- Build Custom Auton Paths - Generates location-based paths that automatically adjust based on alliance and start position.
- Track Scored Coral - Provides real-time scoring updates, assisting drivers in making quick, informed decisions and minimizing errors.

### REEFBUILDER TELEOP

Precision Scoring with Automated Assistance

- Instant Reef Location Scoring - Drivers only need to approach the reef area, and the system automatically aligns and executes scoring
- Coral Tracking System - Prevents driver errors and simplifies decision-making on the field.

