

MATE ROV WORLD CHAMPIONSHIPS RANGER

Rambotics, Inc.
Waltrip High School
Houston, Texas USA
29.819442N, -95.434284 W

RAMMY



TECHNICAL DOCUMENTATION 2026 Company Employees

Jeffrey Ramirez - Construction [9th Grade]

Danika Damron - Pilot, Design, Electrical, Mechanical,
Construction, Team Lead [12th Grade]

Anna Filip - Tether, Construction, Electrical [9th
Grade]

Aniya Randle - Tether, Marketing [11th Grade]

Logan Milhau - Safety, Electrical [9th Grade]

Dell Torres - Marketing [9th Grade]

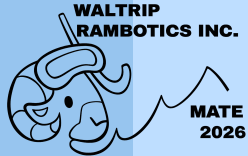
DJ Love - Marketing, CAD Modeling [12th Grade]

CJ Silva - Pilot, Design, Construction, Mechanical,
Electrical [12th Grade]

Camille Daniels - Marketing, Spirit [9th Grade]

Daniel Fitzpatrick - CEO, Photographer [12th Grade]

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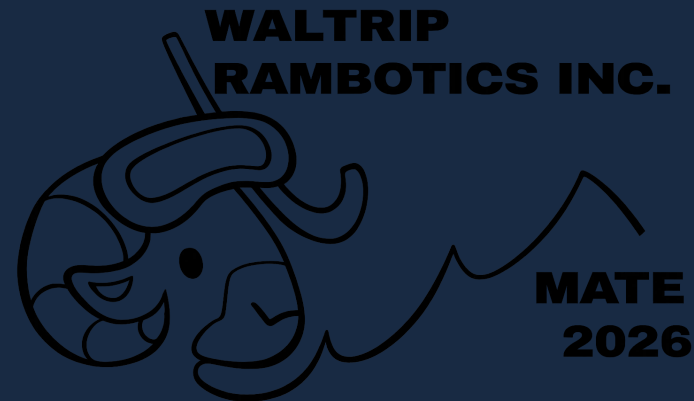


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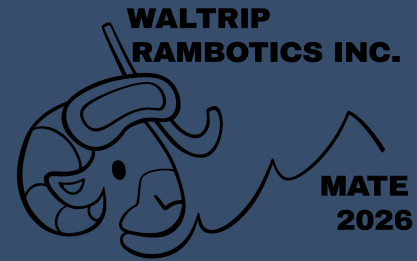
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Abstract



Rambotics, Inc. is a student-led engineering team from Waltrip High School competing in MATE for the first time as a team of rookie competitors. While all current student members are new to MATE, Waltrip High School and the team's coach have previous experience in underwater robotics competitions and many other robotics challenges, helping guide the development process and prepare students for the challenges of marine engineering.

The team proudly presents Rammy, an ROV designed to complete underwater mission tasks through precision maneuvering, data collection, observation, and object manipulation. Throughout the development of Rammy, team members applied engineering design principles while building skills in fabrication, electronics, programming, communication, and troubleshooting. Extensive testing and redesign helped improve performance while adapting to the unique demands of underwater robotics.

As a first-year MATE team, Rambotics embraced the opportunity to explore marine technology, strengthen teamwork, and expand STEM learning through real-world engineering experiences. The team hopes to inspire future innovators while continuing to grow in the fields of robotics, engineering, and ocean exploration.

Company Members



Meet the team

tether management

Ensuring smooth deployment during operations

safety

Ensuring compliance with competition guidelines, Monitoring equipment during live operations

marketing

Managing social media content updates, Securing local corporate sponsorships

spirit

Leading crowd cheers during competitions
Maintaining positive energy in the pit



Danika Damron (Team Lead, Pilot, Electrical)



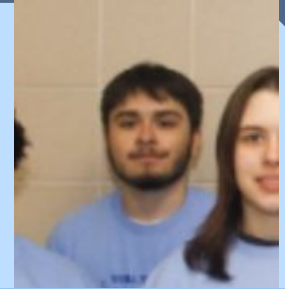
DJ Love (Marketing, CAD Modeling)



Dell Torres (Marketing)



Camille Daniels (Marketing, Spirit)



CJ Silva (Construction, Mechanical, Electrical)



Anyia Randle (Tether, Marketing)



Daniel Fitzpatrick (CEO, Photographer)



Anna Filip (Tether, Construction)



Logan Milhau (Safety, Electrical)



Jeffrey Ramirez (Construction)

PROJECT MANAGEMENT

Team Meetings:

Weekly Stand-Up — quick progress + blockers

Design Review — evaluate CAD, mechanisms, wiring, code

Build Planning — organize hands-on work

Competition Prep — strategy, scouting, driving

Retrospective — what worked, what didn't

Meeting Documentation: **Record the date, time, location, meeting type, recorder, and attendees.**

Capturing quick progress notes from: Mechanical, Electrical, Programming, Drive Team, and Outreach

Division of Teams:

CEO / Team Captain: Leads the team, coordinates subteams, runs meetings, and keeps the team organized.

Pilot / Drive

Team: Operates the robot during matches and practices driving, rules, and strategy.

Electrical Team: Builds and maintains the robot's wiring, sensors, and power systems.

Marketing

Team: Handles branding, fundraising, and sponsorship outreach.

Photographer/

Media: Captures photos and videos for documentation, marketing, and team history.

Mechanical

Team: Constructs the robot's physical structure, drivetrain, and mechanisms.

Spirit

Team Builder
: team energy, creates chants, posters, and boosts morale at events.

Construction

Team: Builds field elements, practice structures, and pit equipment to support robot testing.

Safety

Team: Ensures safe tool use, enforces safety rules, and manages emergency readiness.

SAFETY PROCEDURES

Personal Safety Protecting Yourself

Wear **safety goggles** when cutting, drilling, soldering, or near moving parts.

Tie back **long hair** and remove loose jewelry.

Wear **closed-toe shoes** (no sandals).

Avoid loose clothing that can get caught in gears or belts.

Stay aware of your surroundings — robots can move suddenly.

Why Safety Matters

Robotics is fun and creative — but it involves real machinery. Safety procedures help you:

- Prevent injuries
- Protect expensive equipment
- Build trust with your team
- Stay competition-ready
- and Work like a real engineer

Electrical Safety Working With Power

Always **turn off and unplug** the robot before wiring or adjusting electronics.

Check for **exposed wires**, loose connections, or damaged insulation.

Use the correct **battery type** and handle batteries carefully (especially Li-ion).

Never short-circuit a battery — it can overheat or fail.

Mechanical Safety Moving Parts & Tools

Keep fingers away from **gears, chains, belts, and wheels** when powered.

Use tools properly — cutting tools, drills, and saws require focus.

Clamp materials before drilling or cutting.

Never test moving parts while someone's hands are inside the robot.

Programming & Testing Safety When the Robot Moves

Test robots in a **clear area** with no one in the path.

Announce loudly: **“Robot running!”** before activating.

Start with **low-speed tests** before full-power runs.

Have an **emergency stop** method ready (kill switch, controller, etc.).

The problem

The problem we are trying to solve is that working underwater can be dangerous, expensive, and difficult. People may need to inspect equipment, collect information, or explore underwater areas, but it is not always safe or easy to send divers down to do it.

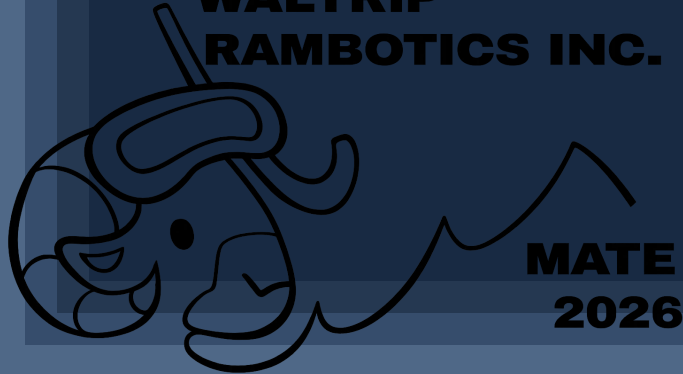
Our ROV helps by giving people a safer and cheaper way to complete underwater jobs. This is important because oceans, lakes, and other waterways need to be studied and protected. Investors should care because underwater robots can help solve real problems, and our team is learning how to use engineering and teamwork to make a difference.



Our mission

Rambotics Inc. is committed to designing innovative underwater robotic systems while promoting teamwork, engineering excellence, environmental responsibility, and STEM outreach within our community.

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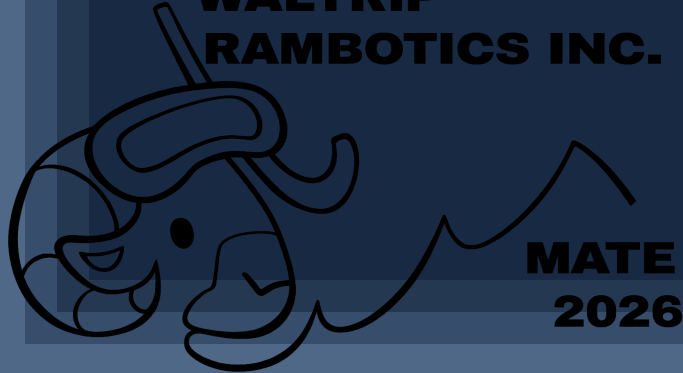
BUILD SCHEDULE



Marketing Strategy

Ramblings Inc. is committed to designing innovative underwater robotic systems while promoting teamwork, engineering excellence, environmental responsibility, and STEM outreach within our community.

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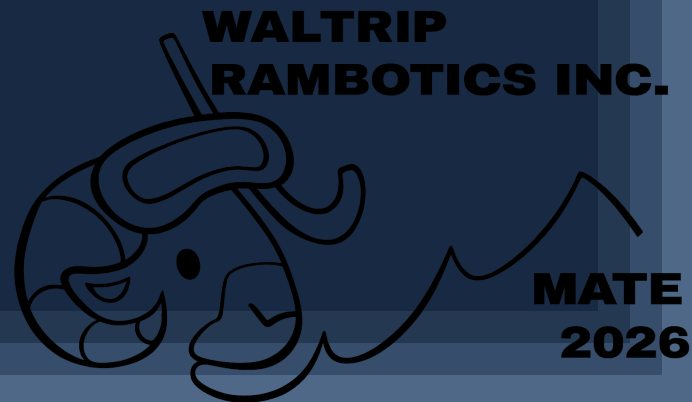
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Community Engagement

Rambotics, Inc. uses community engagement to promote the team and increase awareness of STEM and underwater robotics opportunities. The team creates hands-on experiences that allow students, families, and community members to directly interact with robotics technology through:

- Demonstrations
- Competitions
- Outreach events
- Educational activities

These experiences help introduce people to engineering and underwater robotics in an interactive way.



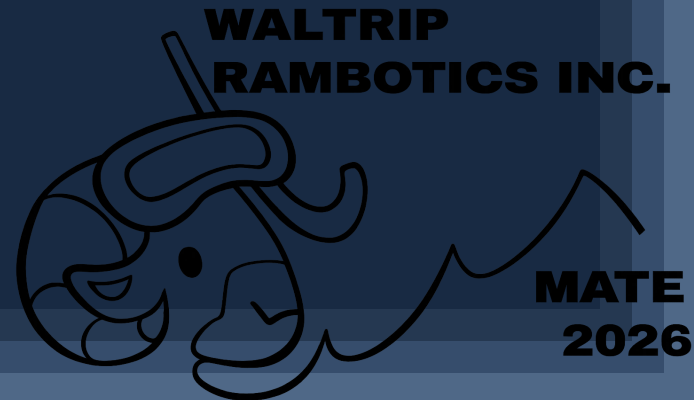
Social Media Promotion

Rambotics promotes its projects and accomplishments through social media platforms such as Instagram (@Waltrip_Rambotics). Team members share:

- Competition updates
- Build progress
- Outreach activities
- Behind-the-scenes engineering content

These posts document the team's journey while helping connect with:

- Students
- Parents
- Alumni
- Sponsors
- Community supporters

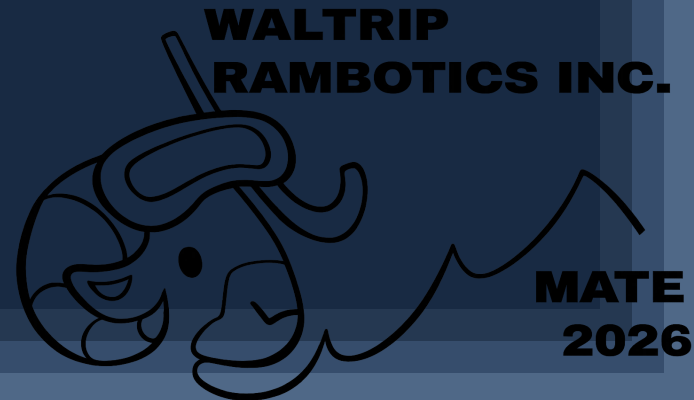


Visual Branding

Rambotics uses consistent visual branding to create a recognizable identity during competitions and outreach events. For the 2026 MATE season, the team developed a marine-inspired branding theme that included:

- Coordinated Carolina blue apparel
- Custom logos
- Role-based team shirts
- Underwater exploration and marine technology graphics

This branding helps the team stand out while reinforcing a professional and collaborative company identity.



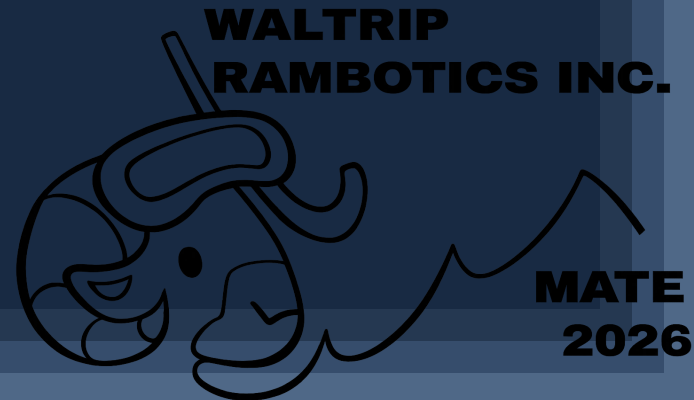
STEM Outreach and Education

In addition to online promotion, Rambotix markets STEM education through direct interaction with the community. The team participates in:

- Outreach events
- Robotics demonstrations
- Summer STEAM Camp activities
- Games Robots Play

These activities allow the team to share engineering experiences with younger students and encourage interest in:

- Robotics
- Innovation
- Future STEM careers



Thank You for Checking Out Our ROV!

What we built: an underwater robot that helps people explore and complete jobs underwater.

Why it matters: underwater work can be dangerous, hard, and expensive for divers.

Who it helps: scientists, ocean workers, and companies that need safer ways to inspect, collect data, and explore.

Our goal: use teamwork, creativity, and engineering to solve real-world problems.

Ask us questions!

We can explain how it works, what problems it solves, and why we made our design choices.

