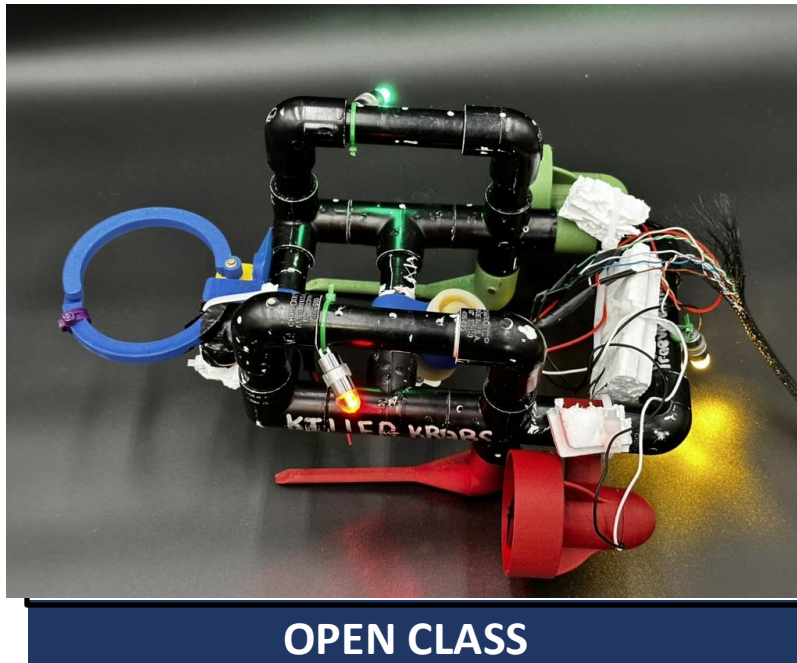


Killer Krabs

Patriot High School, Nokesville, Virginia, United States of America



- 3 Years participating in SeaPerch
- 3 Times at the International SeaPerch Challenge

Our SeaPerch is unique because: (100 words MAX)

- ❑ **Polarizing Frame:** The Frame is coated in black to contrast the lighter pool background and provide extra visibility when picking up pieces
- ❑ **Navigation Lights:** LEDs were added in Red, Green, and White to match Portside, Starboard, and Stern for improved visibility from afar.
- ❑ **Adjustable Motor Mounts:** The motor mounts can rotate and lock in position with set screws to adjust driving characteristics.
- ❑ **PWM Claw:** The motorized claw is hooked to a low pulse-width modulator allowing the driver to control its speed for precise handling
- ❑ **Styrofoam Floatation:** Styrofoam has zero water retention and is adjustable making it perfect fit buoyancy.

SeaPerch Design Overview: (100 words MAX)

The team's sleek black ROV is a speedy, but stable, rectangular design with cubical elements constructed from PVC pipe. It consists of custom 3D printed rotatable underhooks, motor mounts, propellers, and a motorized claw. While the propellers were manufactured using resin for higher layer accuracy, the other components were manufactured with PLA-CF filament due to its increased strength (as opposed to typical PLA). To help with visibility, the team's ROV has LED navigation lights matching the colors of a real boat. Lastly, Styrofoam was used for buoyancy; this material was effective due to its non-absorbance properties and adjustability.

Our biggest takeaway this season is: (100 words MAX)

Enjoy the Process: Throughout the season, the team was hard at work, scrambling to find solutions and fix last minute emergencies. However, all this worry and panic caused them to overlook the incredible amount of progress they had made and how far they had come. They hadn't realized it then, but now they look back on those moments as struggles overcome and as fulfilling stories to be proud of. With this, the team's mentality when facing challenges is not one of fear, but of excitement to weather the storm and persevere.