

# HMS SeaBots: Ranger Team

## Harrington Middle School

514 Mt. Laurel Rd.  
Mt. Laurel, NJ 08054 USA

### Our Team

**Andrew McCorkle** - CEO, Mechanical Engineer, Grade 8

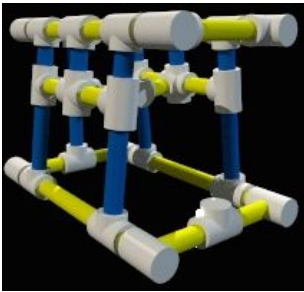
**Ahmed Fouad** - Electrical Engineer, Grade 8

**Ethan Stillman** - Mechanical Engineer, Grade 8

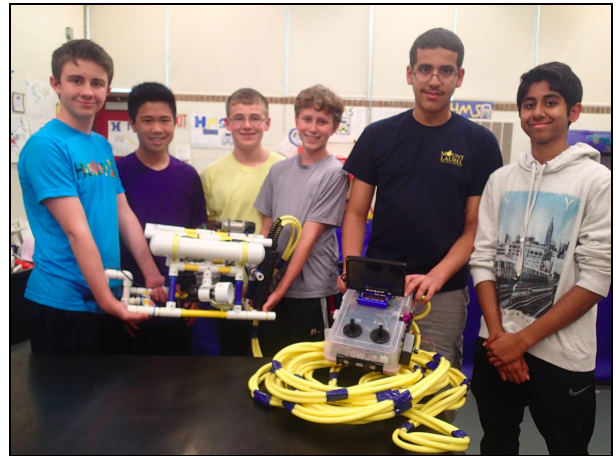
**Vincent Cariello** - Mechanical Engineer, Grade 8

**Daniel Lam** - Software Engineer, Grade 8

**Tejas Kaushik** - Software Engineer, Grade 8



Design sketch created on Clara.io 3D software program



From left to right: Vincent Cariello, Daniel Lam, Andrew McCorkle, Ethan Stillman, Ahmed Fouad, and Tejas Kaushik

### Team Information

- Distance travelled to Houston, Texas: 1,550 miles
- New competitors at the MATE International Competition
- 300 company hours spent on project

### ROV Specifications

**Estimated Cost of ROV** - \$1,100

**Dimensions (in cm)** - 61x38x32

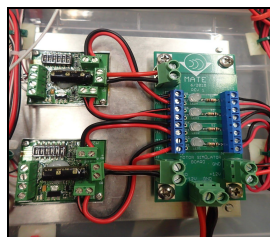
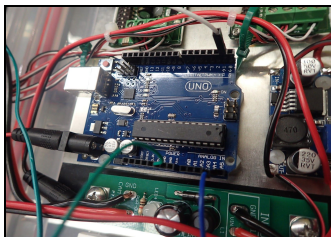
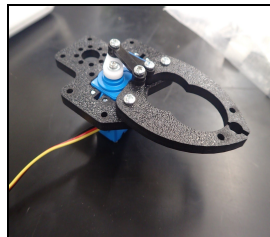
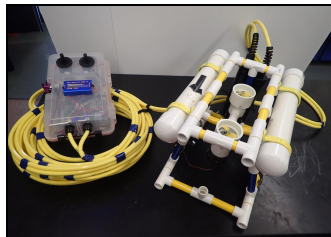
**Weight** - Approximately 3.3 kg

#### Features:

- 4 Bilge pump motors (2 vertical; 2 horizontal)
- 3 Neutrally buoyant tethers, each 16 meters in length
- 2 Onboard Esky® cameras (for front and back views)
- 7" LCD Esky® monitor
- 2 Sabertooth 2x5 motor controllers
- Dual Arduino Uno boards to control the servo and display temperature
- Hitec HS-646WP Waterproof Servo
- Actobotics Standard Gripper Kit A
- Waterproof DS18B20 temperature probe

#### Safety:

- Metal plate in control box acts as heatsink
- Control box main power kill switch
- 25 Amp inline fuse
- Watt meter to monitor voltage and amperage
- Strain reliefs to secure tether wires
- Motor shrouds



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