



# Meet the Team

## Team Bio/Overview:

SeaDivers Team consists of three passionate STEM learners who've enjoyed hands-on activities like LEGO and robotics since they were young. We're excited to take on the SeaPerch Competition, where they can show what they've learned about engineering and technology in real life. Ready to compete at their best, they're eager to demonstrate their skills and passion, hoping to inspire others to join them on this exciting journey.

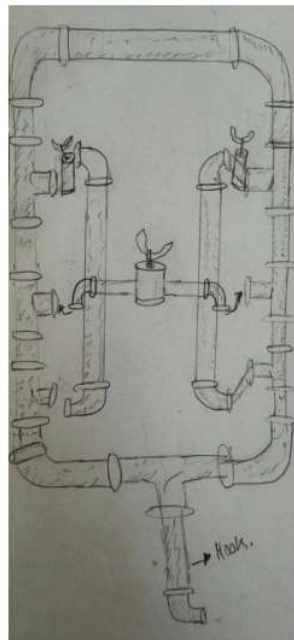


## Team Members

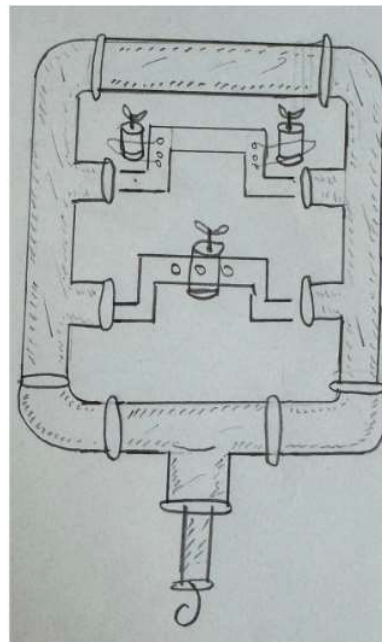
|   | Team member    | DOB        | Age     | Role               |
|---|----------------|------------|---------|--------------------|
| 1 | Maryam Saieed  | 14/03/2013 | 11 Yrs. | Researcher, Driver |
| 2 | Mohamad Saieed | 26/09/2010 | 13 Yrs. | Builder, Driver    |
| 3 | Jianing Li     | 25/7/2014  | 10 Yrs. | Designer, Tester   |

\*We all worked together to write the technical design report and test the ROV.

## Drawing of the team's SeaPerch ROV design:



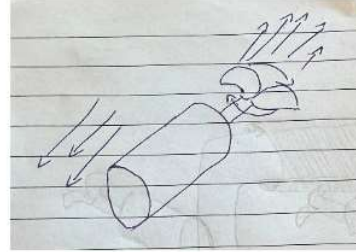
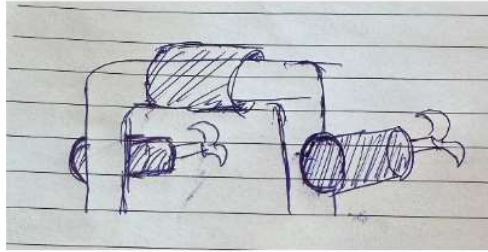
First Design



Final Design

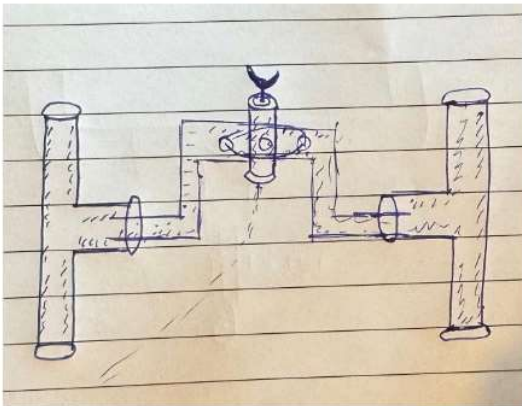
## Overview of ROV Design:

In our pursuit of achieving optimal performance and efficiency in completing missions within stringent timeframes, our team has embraced an innovative approach. Through careful analysis and strategic decision-making, we have chosen to adapt a compact design for our SeaPerch ROV. This decision stems from our commitment to seamlessly navigate underwater environments and swiftly maneuver through hoops while ensuring the timely accomplishment of tasks. By embracing a small-scale design philosophy, we aim to enhance agility, speed, and overall effectiveness in meeting the challenges of the International SeaPerch competition.



Back Side of the Design

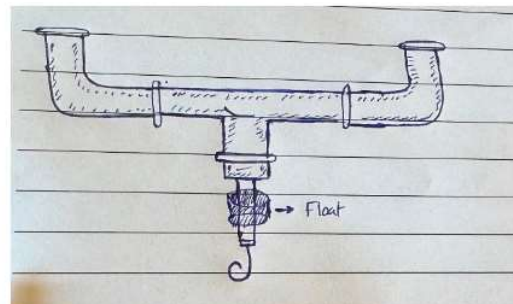
Our SeaPerch ROV design prioritizes efficiency and speed through strategic placement of components. Placing the motors near the rear end minimizes surrounding obstructions, optimizing the pushing force while reducing drag. By reducing the height of the ROV, we further mitigate drag, allowing for increased velocity underwater. This design approach enhances the overall performance and maneuverability of our ROV, ensuring it can navigate swiftly and effectively in various aquatic environments.



Back Side of the Design

Our team made several strategic modifications to optimize the performance of our SeaPerch ROV. To secure the motors, we utilized zip ties and clips, ensuring stability while minimizing bulkiness. By reducing the height of the structure, we maintained natural buoyancy, essential for smooth operation underwater. Increasing the number of floats around the motor enhanced buoyancy, facilitating easier floating. Furthermore, we downsized the ROV pipes to reduce drag and maintain optimal speed, counteracting the added weight. Drilling holes in the fittings allowed water to flow in and out, ensuring balanced buoyancy and stable navigation.

We have merged two hook designs into one by using a thinner PVC pipe with a metal hook attached at the end. This setup helps us finish all the mission tasks effectively. After trying different options, we found this design works best for our SeaPerch ROV. It's reliable and adaptable, making it perfect for navigating the mission course.



**Our SeaPerch is unique because** it integrates a novel hook design, combining a thinner PVC pipe with a durable hook. This innovative approach not only enhances versatility and efficiency in completing mission tasks but also ensures optimal buoyancy for seamless navigation underwater.

**Our biggest takeaway this season is** the importance of collaboration and adaptability. Through trial and error, we learned to innovate and refine our design, leading to a more resilient and competitive SeaPerch ROV.

**Website link:**

<https://www.stema-center.com/>

**Social Media link:**

[https://www.instagram.com/stema.center?igsh=cmxia2NuZ3B0cTd6&utm\\_source=qr](https://www.instagram.com/stema.center?igsh=cmxia2NuZ3B0cTd6&utm_source=qr)

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