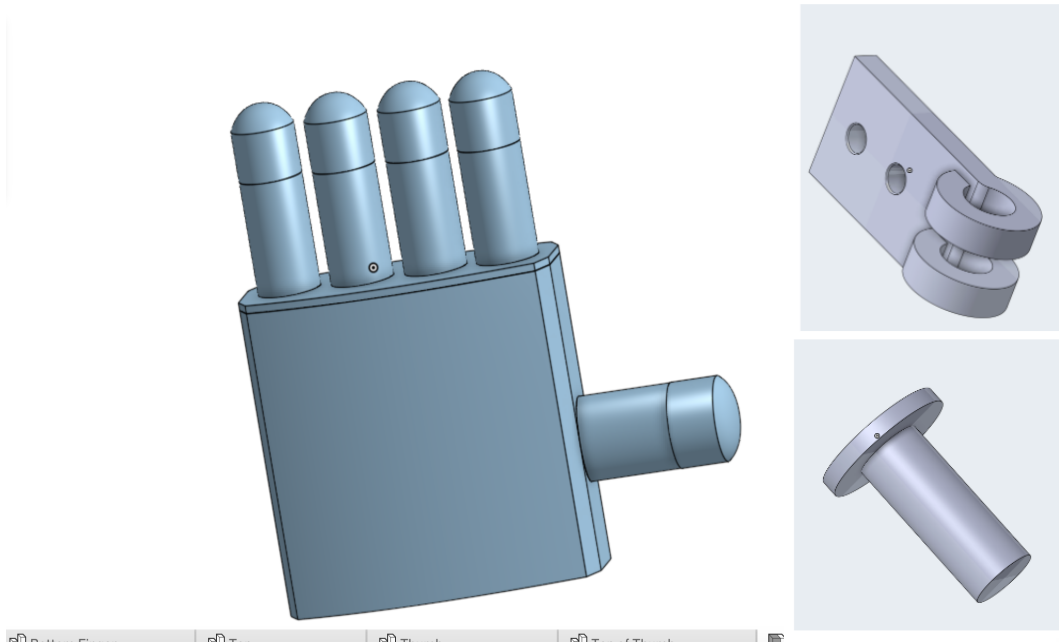


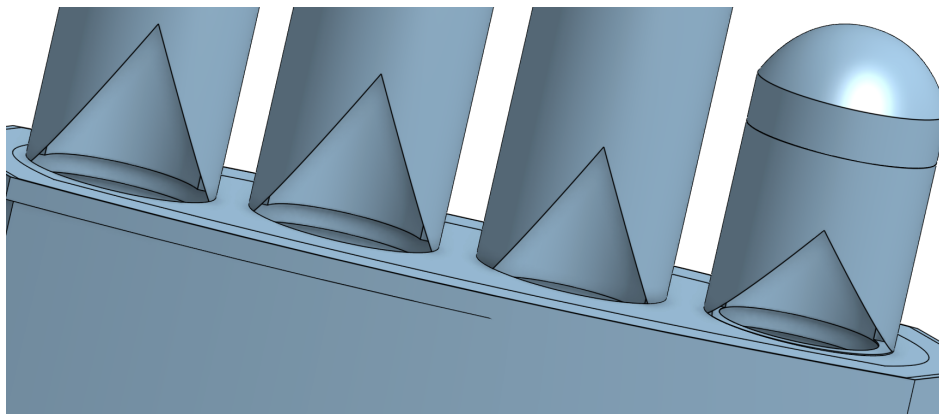
### Design Iteration 1: Hinges for Bendable Fingers

In the initial design, we attempted to incorporate hinges into the fingers to make them bendable. However, after numerous trial and error attempts, we faced challenges in designing a suitable hinge mechanism that would allow the fingers to bend as intended. Despite our efforts, we were unable to achieve the desired flexibility in the fingers using hinges.



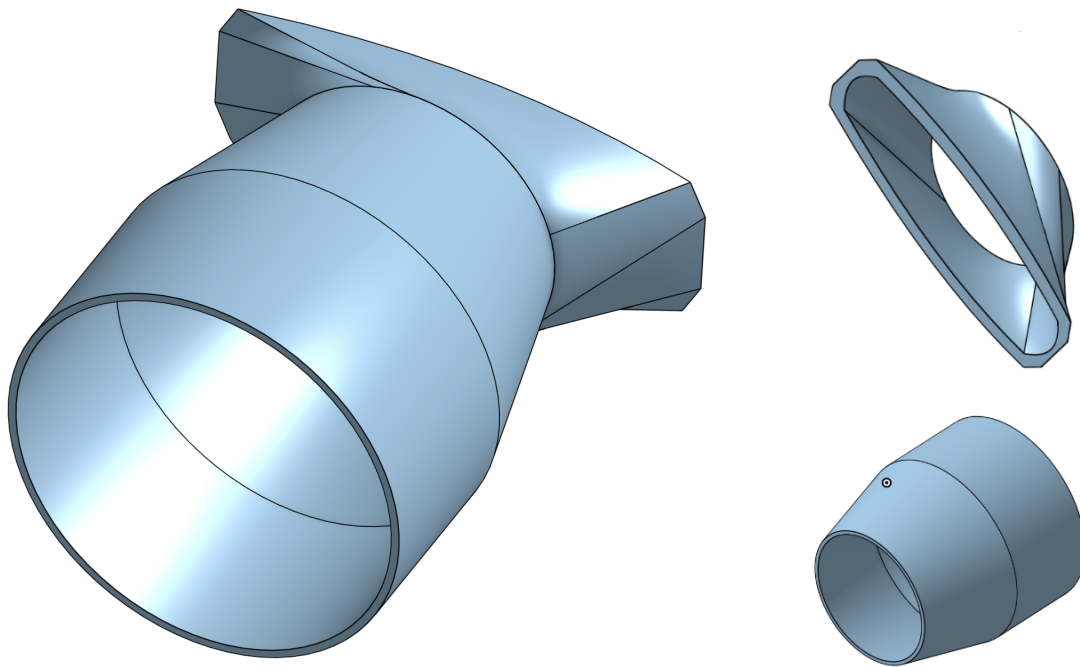
### Design Iteration 2: Triangle Cut for Finger Flexibility

As an alternative to hinges, we decided to implement a triangle cut on the inside part of the hand where the fingers meet the knuckle area. This triangle cut allowed the fingers to fit snugly into the knuckle part, ensuring stability and a more natural appearance. However, it resulted in fixed fingers that were not able to move independently.



### Design Iteration 3: Separating and Gluing the Wrist Parts

Originally, we attempted to 3D print the wrist part as a single component. Unfortunately, the 3D printer encountered difficulties in printing the complex structure accurately. To overcome this challenge, we made the decision to separate the wrist parts and 3D print them individually. We then utilized gorilla glue to securely assemble the wrist components, ensuring a stable and functional wrist joint.



### Design Iteration 4: Adjusting Circle Size for Wrist Fit

During the assembly process, we realized that the originally designed circle size for the wrist would not properly fit the final piece. To address this issue, we made adjustments to the size of the circular component, ensuring a precise fit and seamless integration with the rest of the gauntlet.



### Summary of Design Iterations:

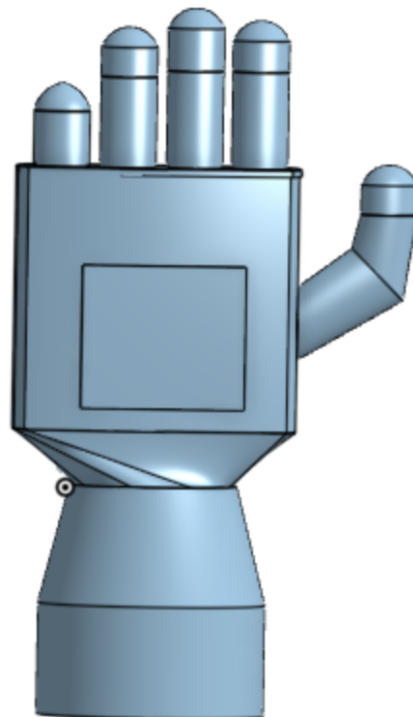
Attempted to incorporate hinges for bendable fingers but faced challenges in achieving the desired flexibility.

Implemented a triangle cut on the fingers to ensure a snug fit at the knuckle part, resulting in fixed fingers.

Separated and 3D printed the wrist parts individually, using gorilla glue to assemble them into a stable wrist joint.

Adjusted the size of the circular component to achieve a proper fit for the wrist.

Through these design iterations, we navigated various challenges and made crucial adjustments to enhance the functionality and aesthetics of the gauntlet. Each iteration allowed us to refine our design and bring us closer to the final prototype that meets the requirements of our rescue operation.



Acknowledgments:

We would like to extend our heartfelt gratitude to the dedicated and talented members of Team AstroGears who contributed their time, skills, and creativity to bring this gauntlet prototype to life. Each team member played a crucial role in the design, development, and testing phases, making this project a success.