

## Objective & Motivation

The goal of the design is to develop a new forearm support module to add to the existing airframe exoskeleton support by Levitate Technologies.

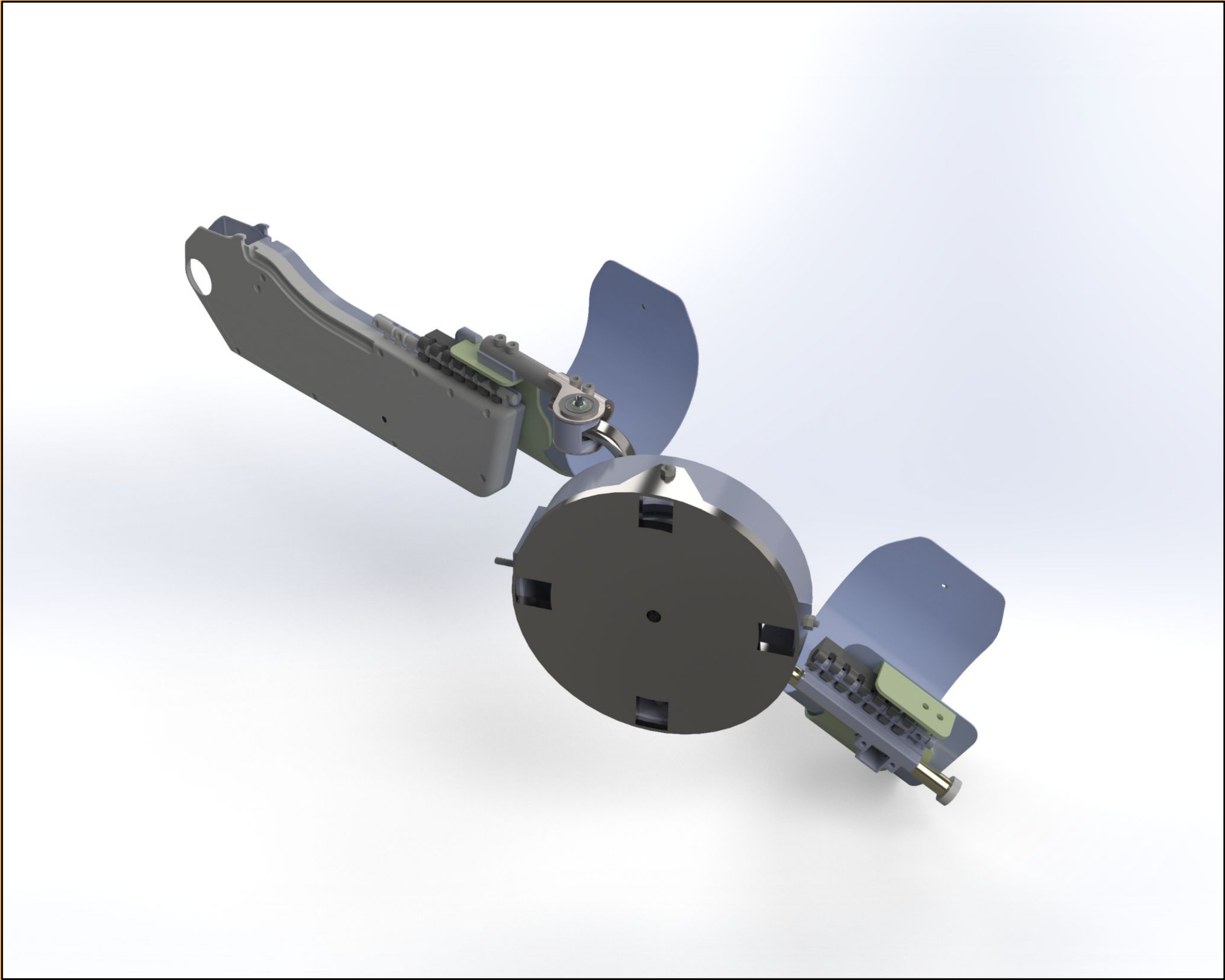
## Features

- Provides up to **7 N·m** of counteracting torque
- Lightweight system (**1.36 kg**)
- Adjustable for diverse forearm lengths
- Direct integration with Levitate’s cassette rail
- Modular subsystems for maintenance and replacement
- Hybrid 3D-printed and machined components to reduce weight

## Technical Specifications

- System weight: 1.36 kg
- Range of motion: full elbow flexion/extension
- Materials: Aluminum 6061, PETG, Stainless Steel, High Speed Steel
- Clock spring: 927 Lesjöfors (0–270° range)
- Dimensions: 303 mm × 113 mm × 169 mm

## Forearm Support Design



## How it works

1. Forearm applies load
2. Clock spring stores energy
3. Stored energy generates counteracting torque
4. Torque supports and lifts the user’s forearm

## Design Team

Jeremy Cruz



Veronica Solorzano



Edgar Romero



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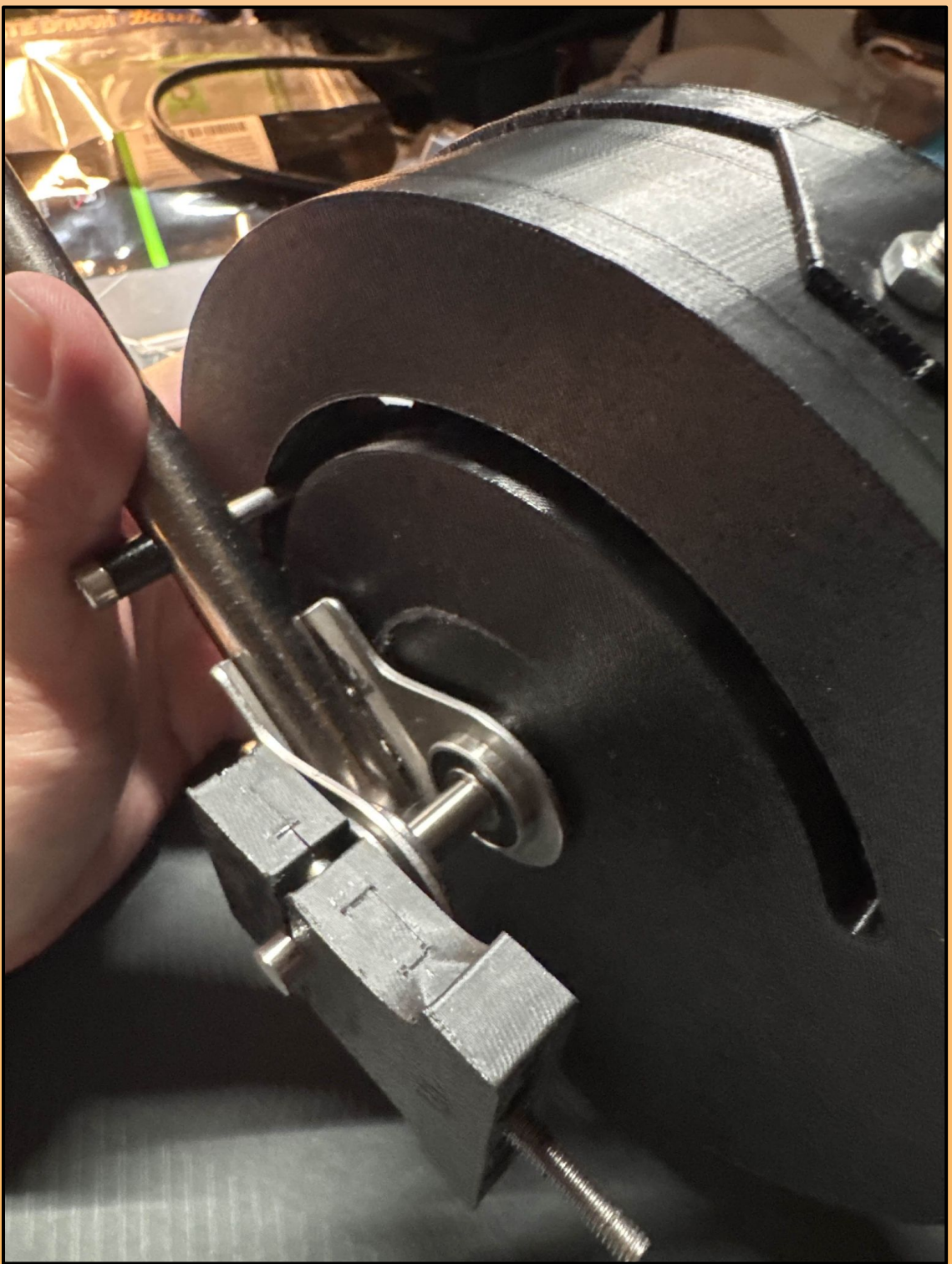
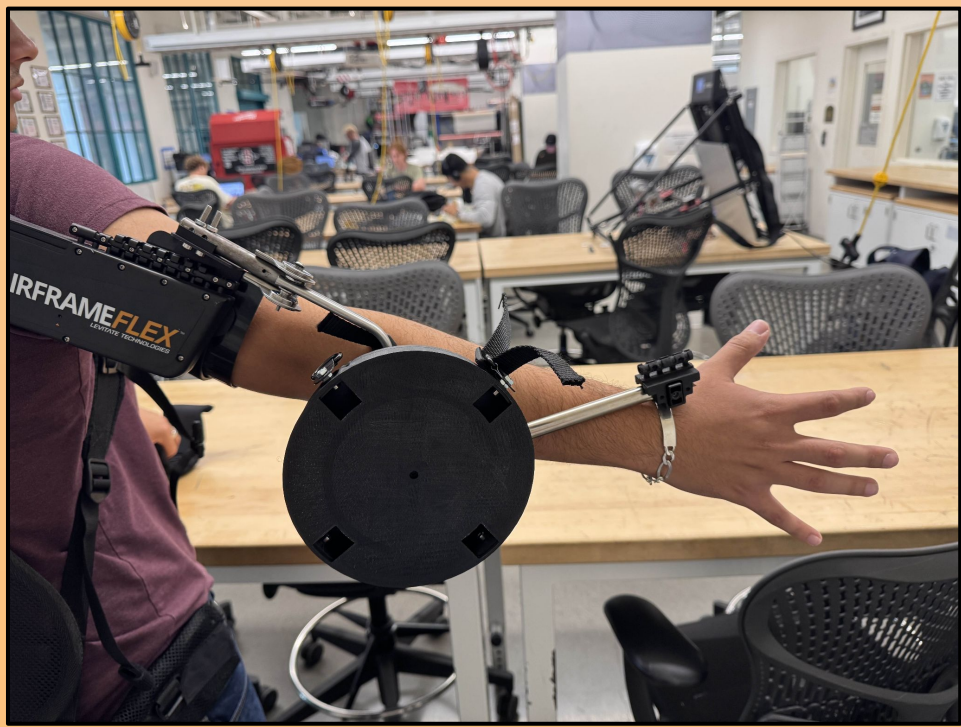
Ashley Chau



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## Testing



## Fully Assembled Float Module



## Acknowledgements

We would like to thank Levitate Technologies for their support in allowing and aiding us in developing and improving the airframe exoskeleton.