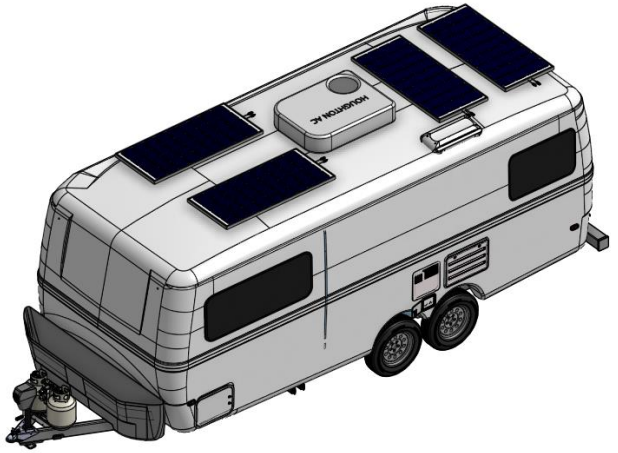
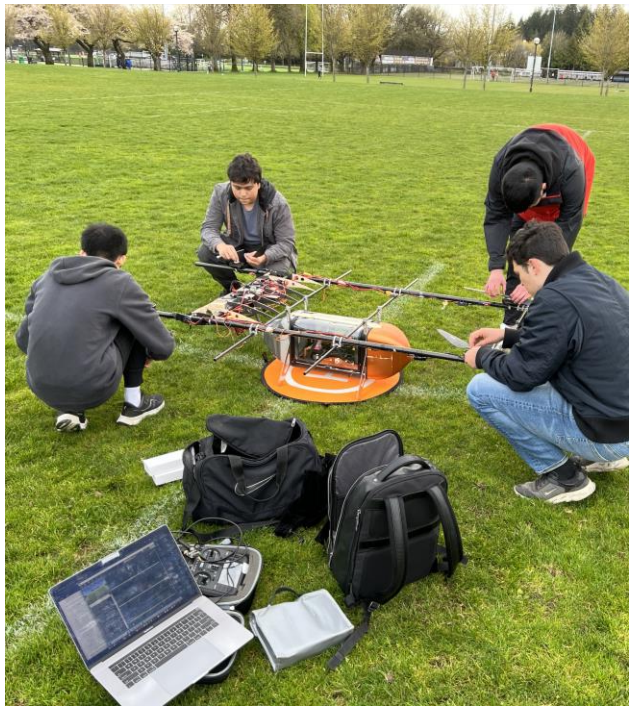
Benjamin Lee
Project Portfolio

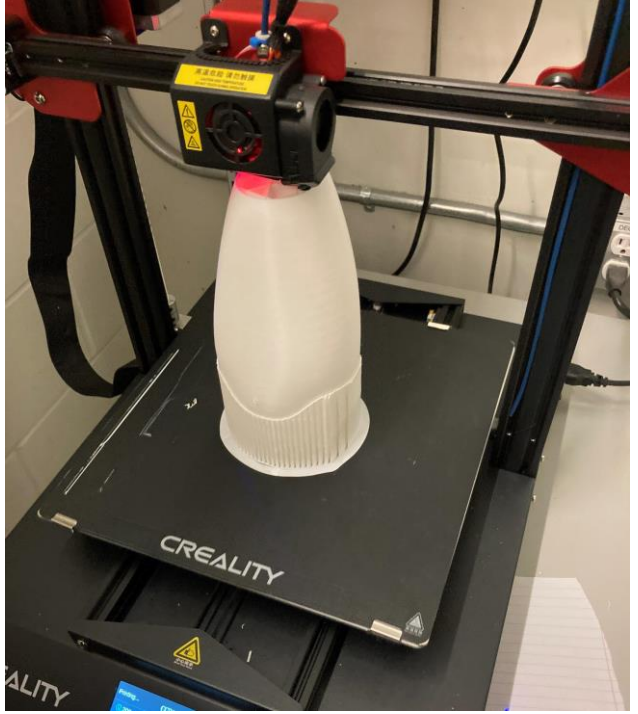
Mechanical Engineering Student

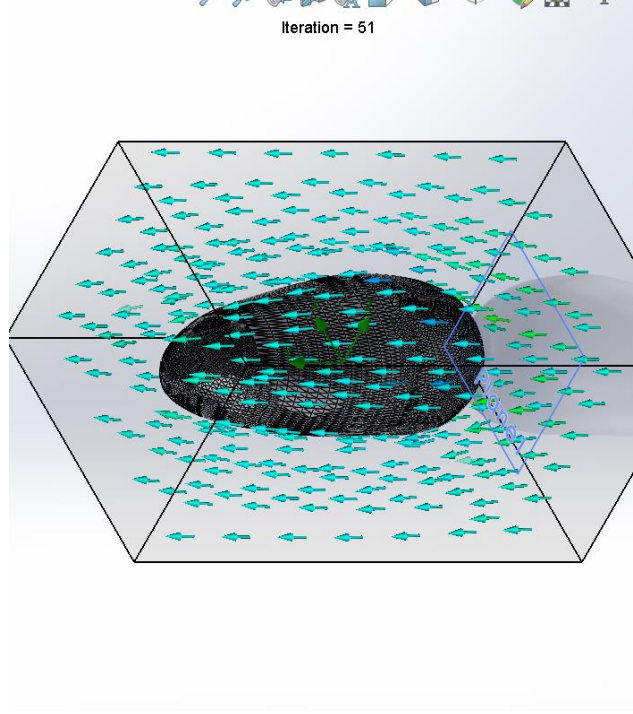
Escape Trailer Industries Manufacturing Engineer Internship

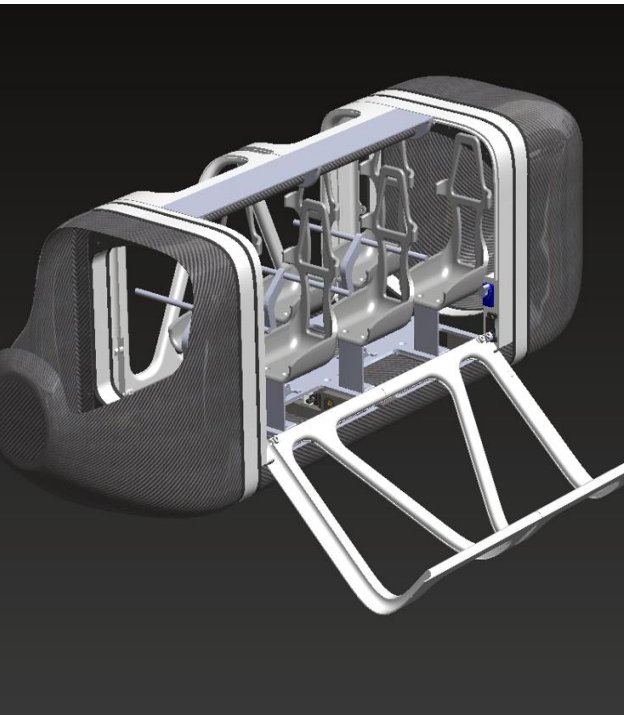


- Led the design and production of E23 with three distinct configurations
- Conducted strain gauge and FEA testing on chassis for robust design validation
- Transferred previous trailers into the CAD space for enhanced design efficiency
- Implemented design iterations to new and previous trailers using CAD for continuous improvement
- Redeveloped BOM and streamlined supply chain for end-to-end product enhancement
- Programmed parts and operated CNC router for precision in manufacturing
- Utilized rapid prototyping techniques with 3D printer and CNC for efficient product development
- Applied Lean Six Sigma principles to enhance efficiency in design, production, and supply chain processes for E23 and other projects.







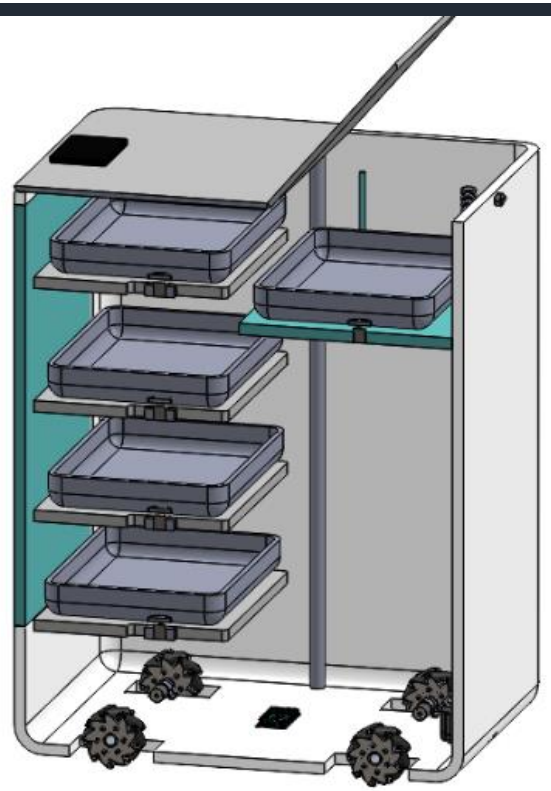


UBC UAS
Mechanical Payload Subteam Member

Barbie Airbus

- Worked on automated door mechanism with proper electronics selection and motor specification.
- CAD design, FEA for structural integrity, CFD for aerodynamics of cabin shell
- Contributed to Landing gear design and overall mechanical structure,
- Onboarded members to OnShape with providing transition from SolidWorks
- Work closely with software and aircraft subteams to determine optimal plane weights, specifications

2023 UBC Design League Designathon



- Crafted CAD rendering of an intelligent, automated kitchen bot
- Presented design to judges for evaluation
- Implemented ball screw elevator system with motorized plate dispensing
- Demonstration of strong business communication and technical writing abilities

Posture-ino

- **Arduino Posture Corrector Project:**
  - Developed during CPSC 1491 at Langara, showcasing foundational Arduino skills
- **Functional Design:**
  - Integrated an accelerometer to track back angles for posture correction
  - Incorporated a piezo buzzer for real-time indication of poor posture
- **Advanced Connectivity:**
  - Utilized an onboard Wi-Fi shield (not visible in the picture) for seamless data transfer
  - Established communication with a PC/laptop to log data for thorough user analysis
- **Eco-friendly Challenge:**
  - Met the challenge of creating the project from recycled materials, demonstrating a commitment to sustainability

Baby Stroller Cupholder

- **Client-Driven Prototype:**
  - Created a 3D printed attachable cupholder for a real client's baby stroller
- **Adjustable Design:**
  - Engineered an adjustable cupholder with a slotted edge for customization
- **Team Collaboration:**
  - Collaborated in a team of 6, closely working with the client to meet specific requirements