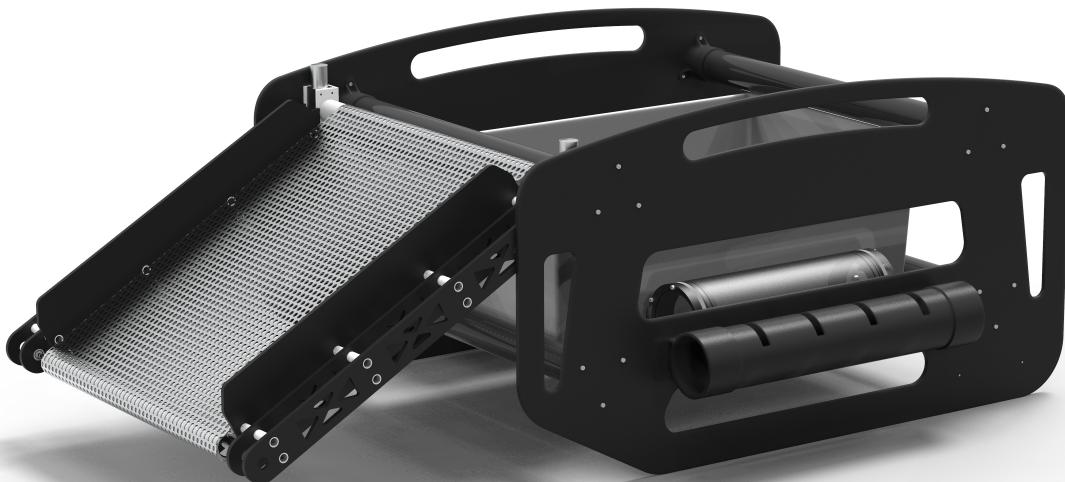


# CAD Portfolio

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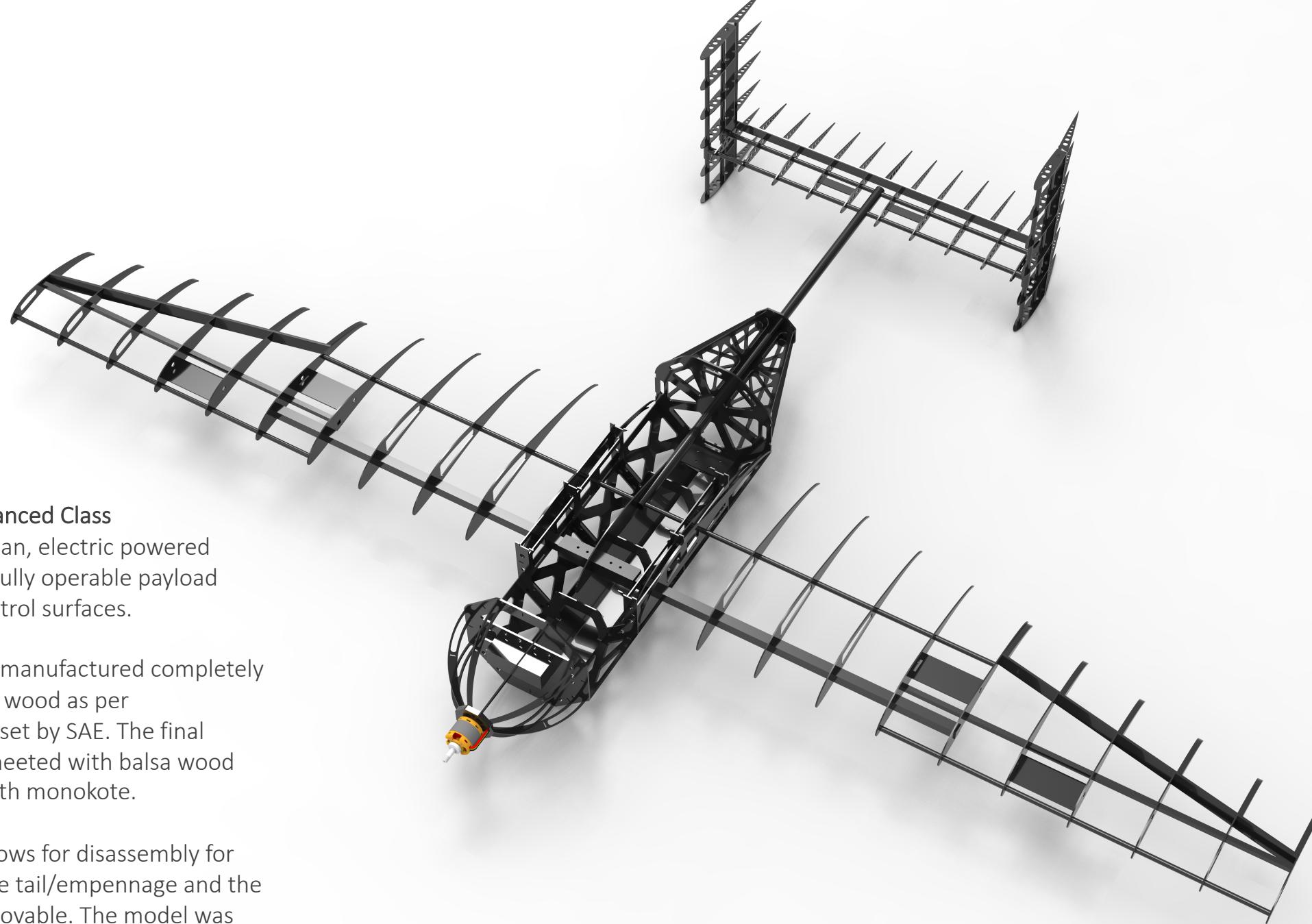


## WOOMBA

A remotely operated aquatic vehicle tasked with the mission of removing plastic pollution from still bodies of water.

The system utilizes a conveyor belt system to intake pollution which is then collected in a bin.

The design consists primarily of PVC pipes, machined PVC panels (waterjet), and 3D printed components. The model was drafted in SolidWorks.



### SAE Aero Advanced Class

A 12 ft wingspan, electric powered aircraft, with fully operable payload doors and control surfaces.

The aircraft is manufactured completely from laser cut wood as per requirements set by SAE. The final aircraft was sheeted with balsa wood and coated with monokote.

The design allows for disassembly for transport – the tail/empennage and the wings are removable. The model was drafted in SolidWorks.

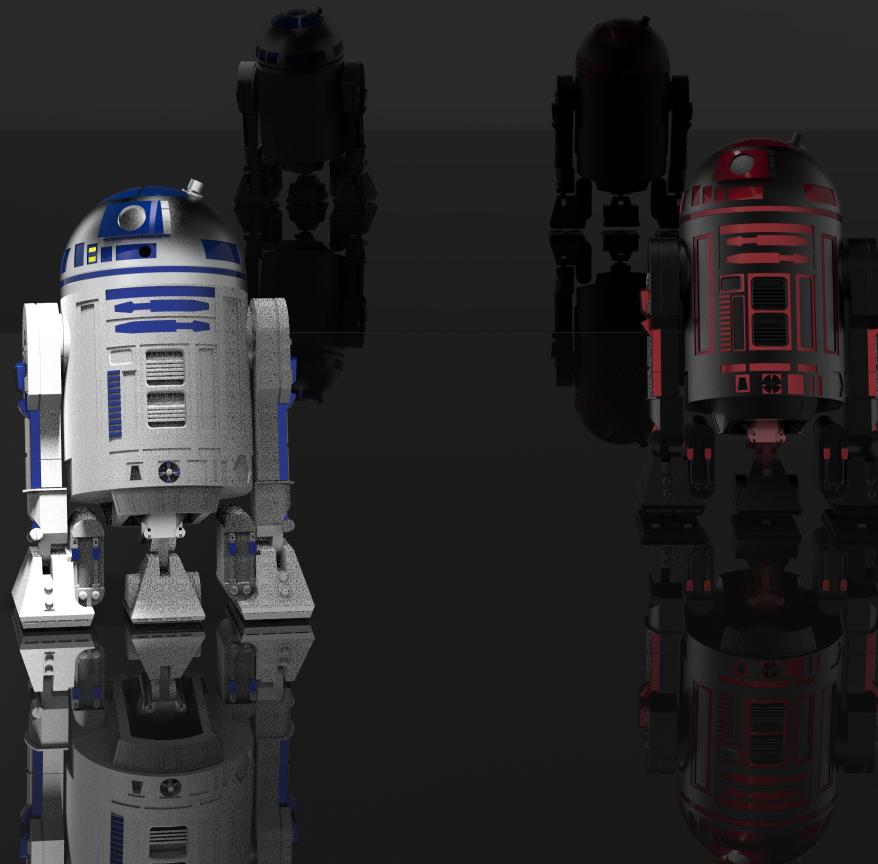


### **Ultrasonic Range Sensor Housing Units**

Housing units designed to encase ultrasonic range sensors utilized in live human detection at NYU library.

All housing units were 3D printed at the NYU MakerSpace – over 500 units. Constant adjustments were made to optimize print quality and to reduce printing time.

The two primary prototypes feature a combination lock security measure and a security screw mechanism. The model was drafted in SolidWorks.



### Disney Parks – R2D2

Full scale R2D2 models – standard configuration and sith configuration.

The R2D2 models were designed to be manufactured and deployed at Disney Parks. The manufacturing methods include sheet metal forming and different casting and molding processes.

The design is based on previous models from movies.



**Mercedes Benz Steering Wheel**  
Steering wheel modeled from client photograph.

This is a 3D model of a Mercedes E-Class steering wheel created in SolidWorks. Some of the primary features used were swept bosses and lofts. The final product was rendered in KeyShot 8.



## Robotic Crane Arm

3D printed robotic crane arm, designed in SolidWorks. The model was designed as an aesthetic piece with mass manufacturability.