

Dylan Shackelford

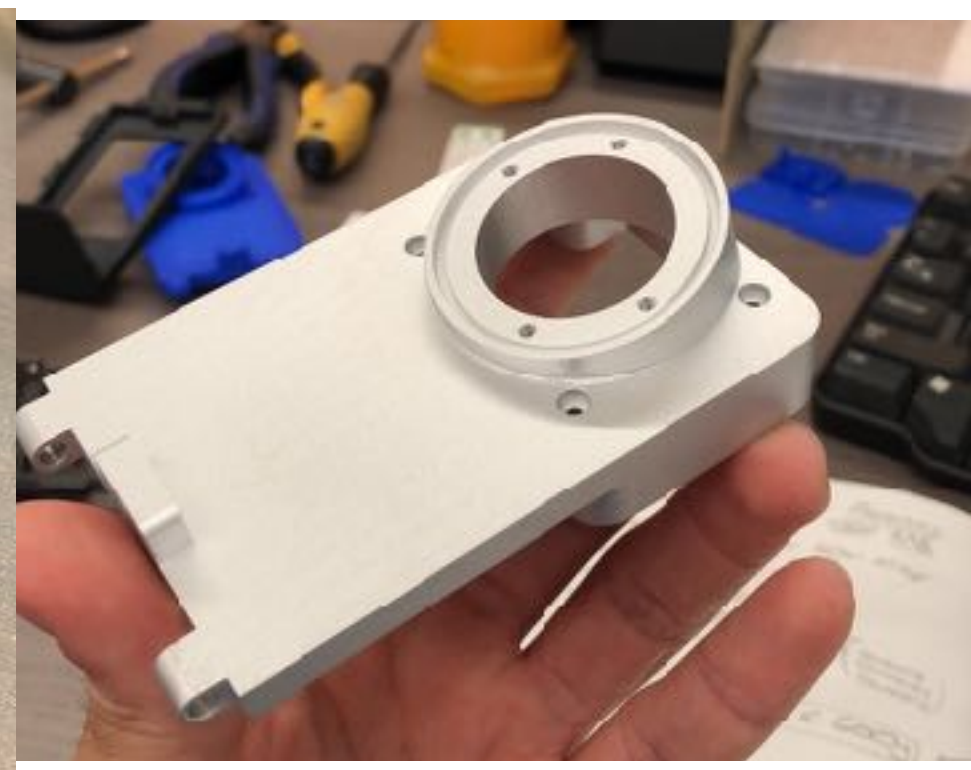


Mechanical Design / Software Development
University of California, Santa Barbara,
BSME 2017

Bracket: Sony MSZ-2100G

Matrice 200/Inspire 2

- Worked with Sony to develop brackets to mount their Multispectral camera.
- Utilized a hinged, aluminum design.
- 3D printed for rapid prototyping
- Housed DME SkyPort circuitry.



Bracket: Sony MSZ-2100G

Matrice 200/Inspire 2



Bracket: Sony MSZ-2100G

Phantom 4 Pro

- Carbon Fiber and Aluminum
- Design constraint of IMU and sensor rigidly attached, while being on opposite sides of the drone.
- 3D printed for rapid prototyping



Bracket: Sony MSZ-2100G

Phantom 4 Pro

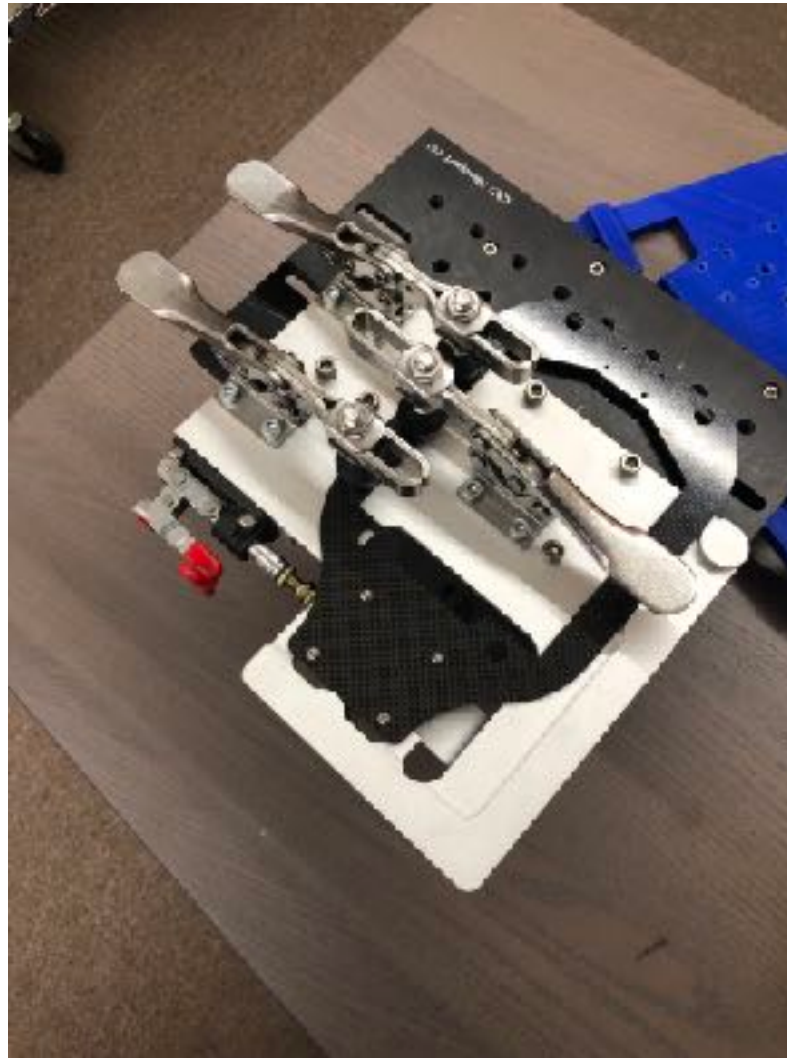
- Market release with Sony Ag team.
- Calibration plate design for repeatable assembly.



Bracket: Sony MSZ-2100G

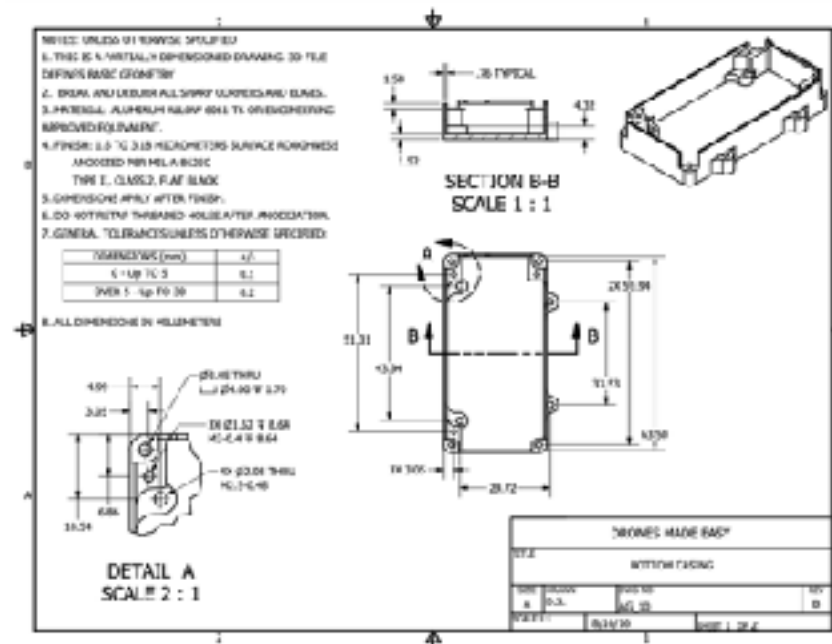
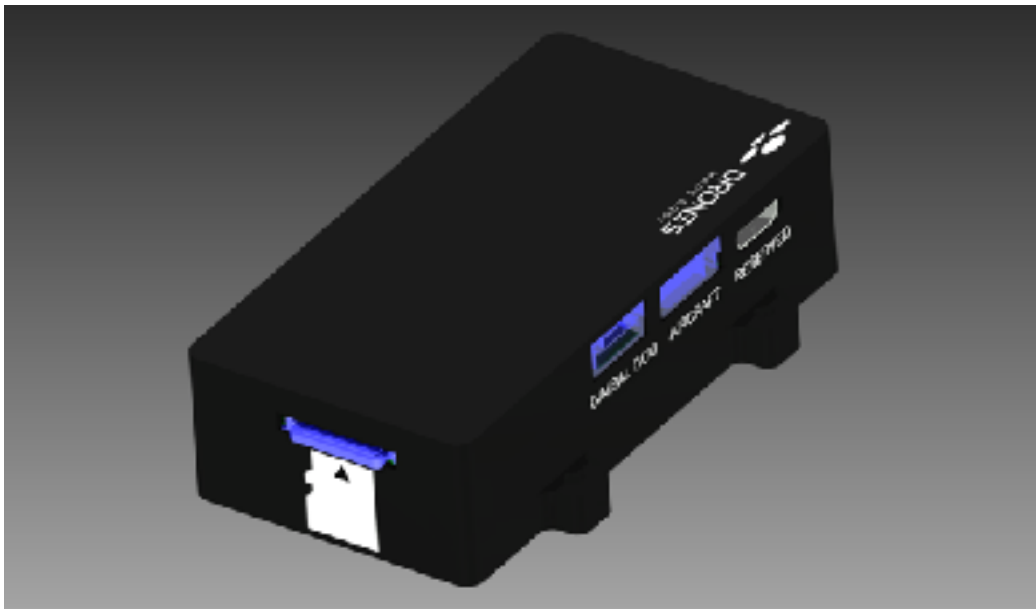
Phantom 4 Pro - Jig

- Jig to help ensure assembly as consistent as possible.



Ninja On-Board-Computer

- Enclosure for custom On Board Computer (OBC)
- OBC communicates with Map Pilot to trigger third party cameras on mapping rigs.
- Manufactured in aluminum



Armadillo - The Camper Canopy

- Designed in FreeCAD
- 8020 aluminum Rails for easy attachments
- Custom Corner bracket design and produced with CNC
- Geometry solutions solved using Octave for the Linkage assembly.
- Camped and surfed all over California with it

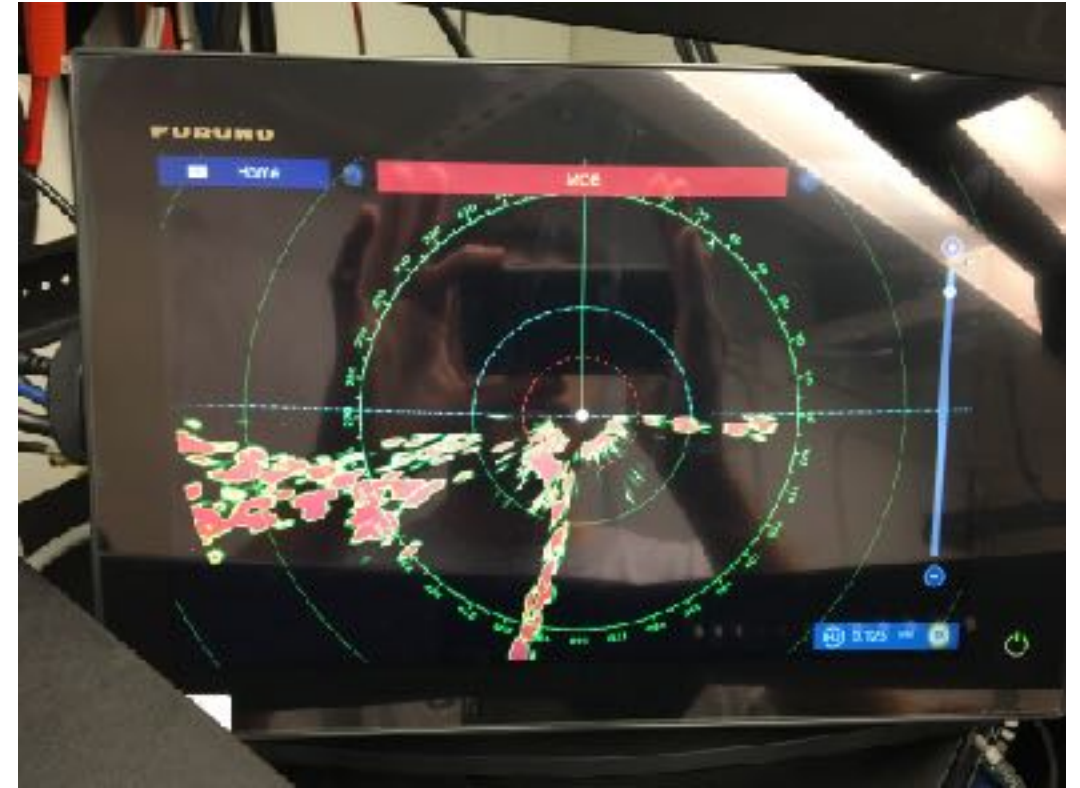


Armadillo - The Camper Canopy



NOAA Mobile Radar Station

- Senior Capstone project
- Tracking poachers via Radar and autonomous software.
- Systems Lead: integrating mechanical housing, electronics and software



Swish N' Stash

Water Powered, Portable, Storable Dishwasher



- ME 153 Design Project
- Won "Most Technical" at Design Fair.
- 3 Months with a budget of 150\$
- Powered by the average faucet water pressure!

Swish N' Stash Continued

Materials:

- Housing made with MDF Plywood
- Rotor Shaft machined from Stainless Steel 304
- Faucet Attachment with flexible rubber membrane
- 3D Printed Rotor
- Rubber Seals added to Rotor and Walls
- Piping with PVC and Rubber Tubing



Compressed Air Motor

Skills: Lathe, Mill, Drill Press,
Band Saw, Sanding

Ran at 2300 rpm

Followed Professional Machining
Instructions

Materials: Stainless Steel,
Brass, Plastic, & Aluminum

