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name very clear ✓

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Undergraduate Student at Georgia Tech

Class of 2021

graduation date clear ✓

contact information clear ✓

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Good cover page!

has information very clear

no clutter, slightly more unique layout

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good table of contents organized
by type of experience

could also list skills + responsibilities
briefly under each experience

good to keep this on every page

Sarah Demsky
Georgia Tech Aerospace Engineering Class of 2021

Ball Aerospace - Broomfield, CO (Virtual)

Mechanical design intern in the Mechanical Ground Support Equipment group
Summer 2020

Assisted the department in all aspects of mechanical design and creation of drawings for production release.

Because of ITAR restrictions I cannot show images of my specific designs.

My Work:

Designed a **vibration test fixture** to interface a satellite sensor to a standard shaker table

Integrated a **magnetic pre-load mechanism** into an optical mount for a telescope lens

Created drawings for all parts using **geometric dimensioning and tolerancing** for production release

Presented designs at **concept reviews** and peer reviews

I additionally participated in the IRIS (Interns Remotely Investigating Science) program, a 4-week program allowing interns to design creative solutions to real world problems.

My group designed an application to help assist elderly people living in isolation from COVID-19 how to use video chatting software like Zoom.

good emphasis on important words
easy to read & comprehend
could add more photos²/diagrams

NASA Marshall Space Flight Center – Huntsville, AL

Intern in the Structural Dynamics & Integration branch of the Spacecraft & Vehicle Systems Dept.
Spring 2019

key! Worked on proof of concept testing, analysis, and mathematical modeling of a new damper system NASA is researching and developing.

Because of ITAR restrictions I cannot show details of my test set up or the damper system.

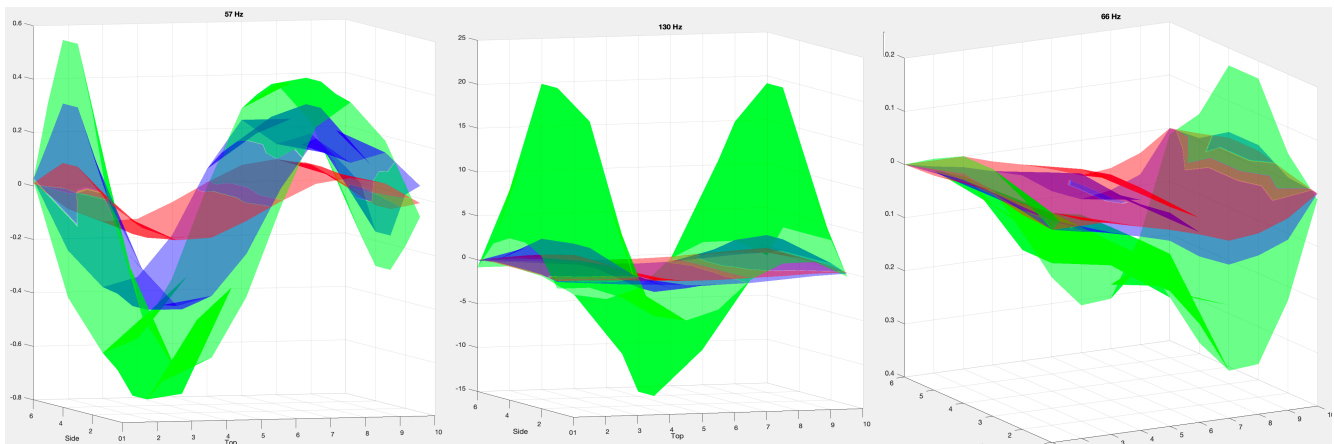
My Work:

Derived the equations of motion for the new damper system NASA is researching and developing

Designed and built a test set-up to simulate an avionics box attached to a replica SLS skin panel

Performed roving impact modal tests to analyze the mode shapes and vibrations of the skin panel

Created 3D surface graphs with MATLAB to show the changes in mode shapes with the damping system, some examples shown below.



good pictures, could make them larger

could add emphasis

eVTOL X-Plane Design, Build, Test

Dr. German Research Group
Fall 2020 – Present

Research Goal: Design and build a 1000 lb electric VTOL X-Plane to test immersing eVTOL technologies.

good, very clear + simple

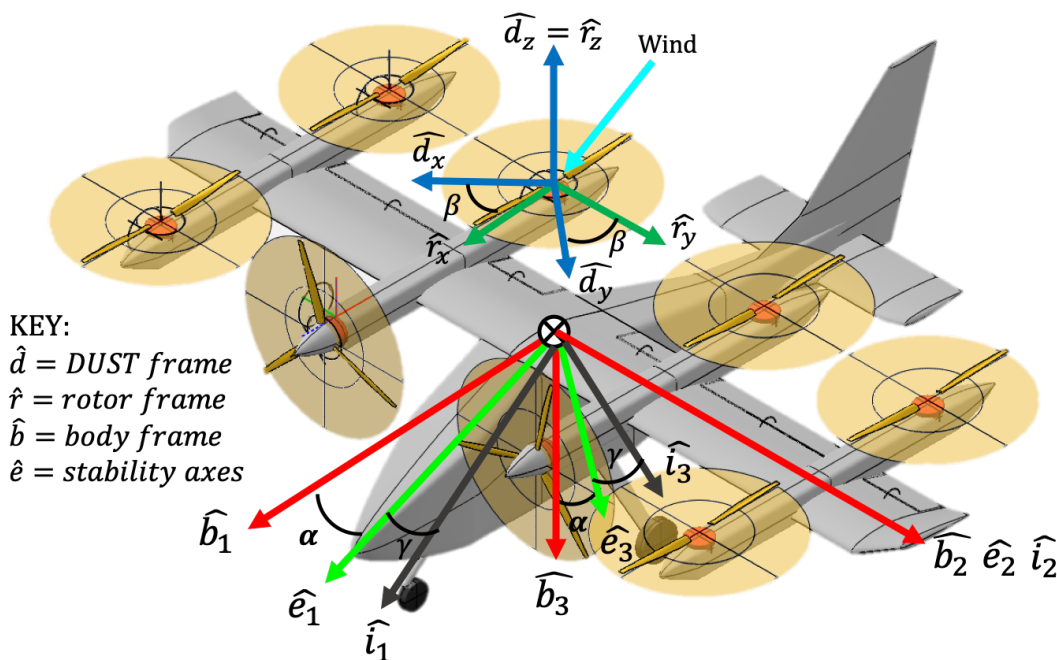
My Work:

Derived the rotation matrices to convert DUST reference frames to AVL reference frames

Created a GUI interface in Python to visualize the eVTOL rotor model

Researched FAR safety regulations to use as a basis for our aircraft design.

add emphasis



nice large picture!

Spatiotemporal Modeling of COVID-19

Vertically integrated and multidisciplinary project
Fall 2020 – Present

✓ **Research Goal:** Understand the spread of COVID-19 in the built environment.

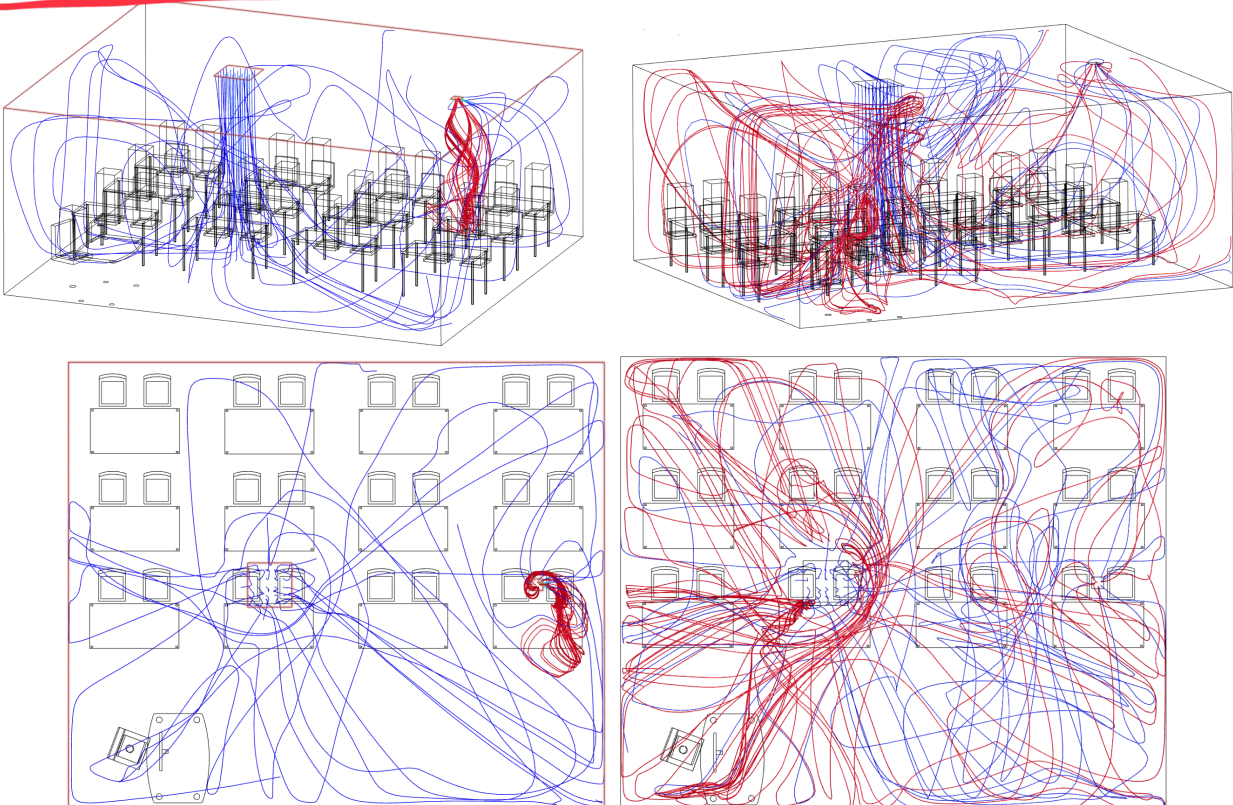
My Work:

Model the airflow of K-12 classrooms with different HVAC layouts and locations of a sick coughing student.

Used SimScale to complete the CFD modeling.

add emphasis

Example airflow models are shown below, with the clean air in blue and infected air in red.



great visuals!

TARGET CubeSat Mission – Space Systems Design Lab

Structures Team Member

Fall 2018 – Spring 2020

Mission Objective: Test LiDAR imaging in space by releasing an inflatable mylar balloon tethered out from the satellite.

More information can be found here: <http://www.ssd.gatech.edu/research/projects/tethering-and-ranging-mission-georgia-institute-technology-target>

↑ good, could maybe shorten url

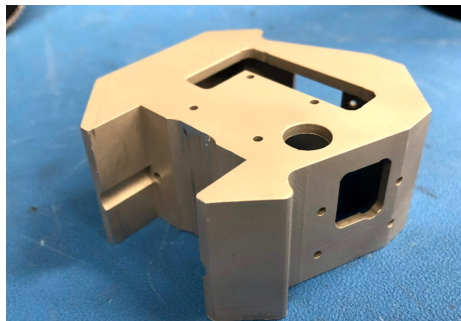
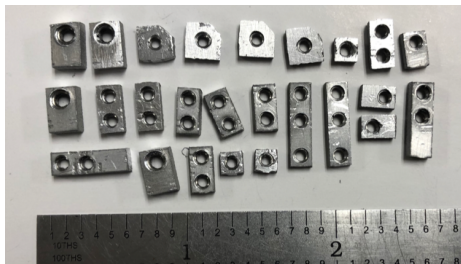
My Work:

SolidWorks CAD modeling structural pieces of satellite

Integration in SolidWorks of all sub-team components into final structure, ensuring physical assembly is possible

3D printed prototyping of structural components

Machining of actual flight hardware out of aluminum and steel, using both CNC and manual machining, some examples shown below



OrCa CubeSat Mission – Space Systems Design Lab

Structures Design Lead ✓
Fall 2019

shorten { **Mission Overview:** The Orbital Calibration Satellite (aka OrCa) is a 12U CubeSat conceptualized, designed, and built in a short 6-week time frame, with a mission objective to provide optical calibration to improve the tracking of RSO's.

The satellite was successfully launched in March of 2020.

More information can be found here: <https://www.ae.gatech.edu/news/2020/03/all-eyes-cape-canaveral-latest-ae-cubesat-launch-march-26>

good url, maybe just shorten

My Work:

Creation in SolidWorks of all the early CAD designs to “pitch” the idea to ULA and the Air Force

SolidWorks CAD design of entire final structure

Assisted in the fabrication and assembly of flight structure



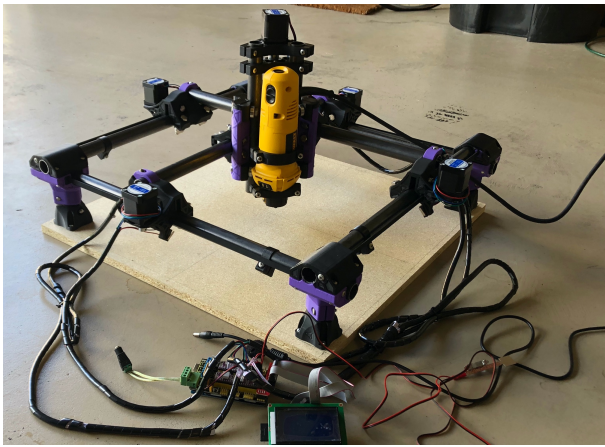
Design constraints were focused on creating the maximum surface area of colored panels, easy manual machineability in a short time frame, strong internal structure for vibration test.

make larger

Mostly Printed CNC

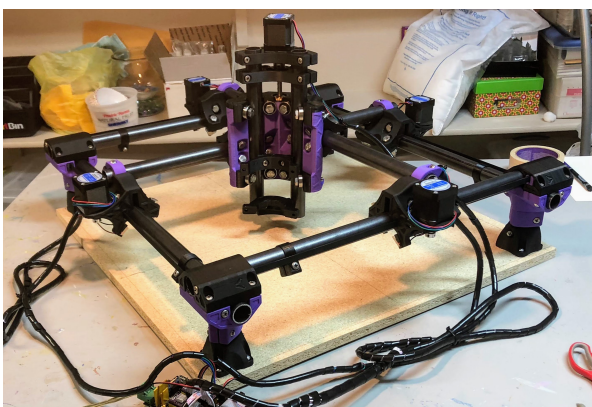
Summer 2020

Project Overview: CNC router built entirely from 3D printed parts and COTS hardware with the ability to cut wood and aluminum. The total footprint is 24" by 24" with a workspace of 12" by 12" by 3.25".



Finished CNC assembled with DeWalt router attached.

Large 3D printed parts used in assembly. All parts printed in PETG. Designed to be printed without any supports.



CNC assembled without tool attached. Other tools like drag knives or pens can be attached to cut vinyl or draw.

Great layout! Easy to digest + unique