THOMAS ZAFFIRO

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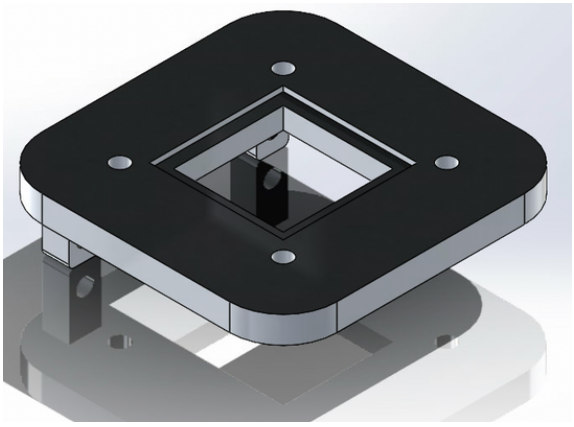
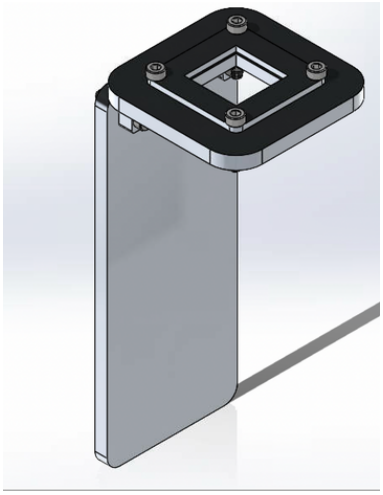
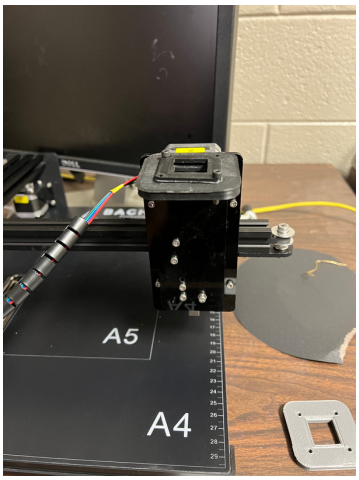
AUTOMATIC CERAMIC PROBE - GEORGIA TECH RESEARCH INSTITUTE







What?

- Design and fabricate a device that automatically probes ceramic samples

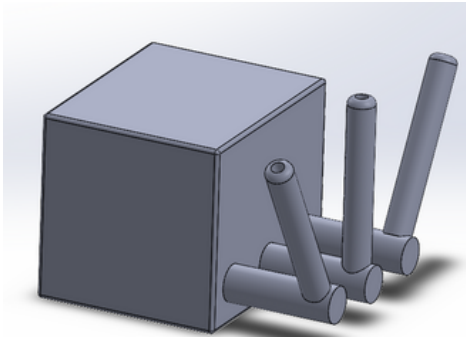
How?

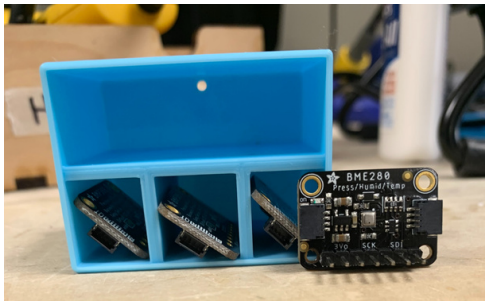
- Designed in **SolidWorks**
- Utilized **GD&T**
- **3D Printed** the designed parts and drilled holes in the mount

Results

- The design has been fabricated and assembled and will be **tested** soon

AIR SENSOR - AEROSPACE SYSTEM DESIGN LAB





What?

- **Pitot Static Air Sensor** used to measure multidirectional particulate airflow

How?

- Designed using **SolidWorks**
- **3D printed** and glued together
- Incorporated **Raspberry Pis** and **BME 280 sensors**

Results

- Air flow data had correct patterns but questionable magnitudes
- Further testing after resin sealing should improve the data

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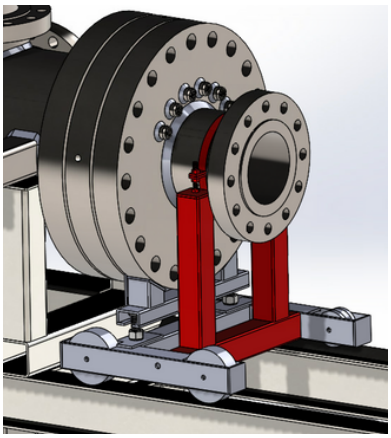
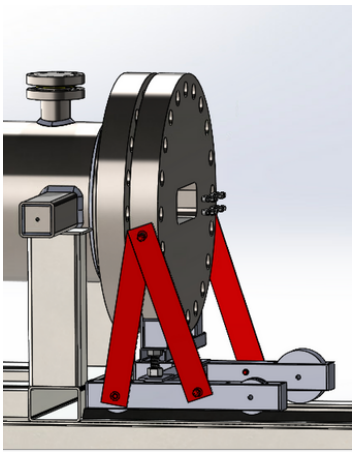
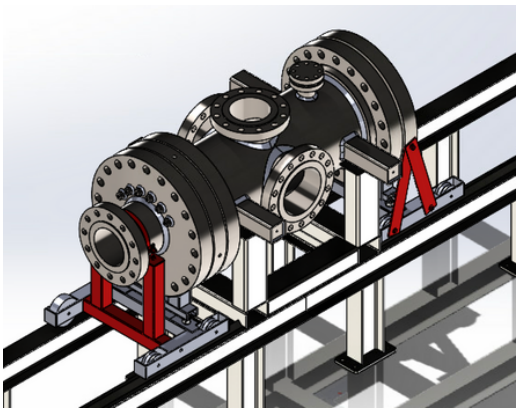
FLANGE SUPPORTS - BEN T. ZINN COMBUSTION LAB







What?

- Design support structures for the flanges on the combustion rig used for **soot production analysis** (designs highlighted in red)
- Each flange weighs 750 pounds

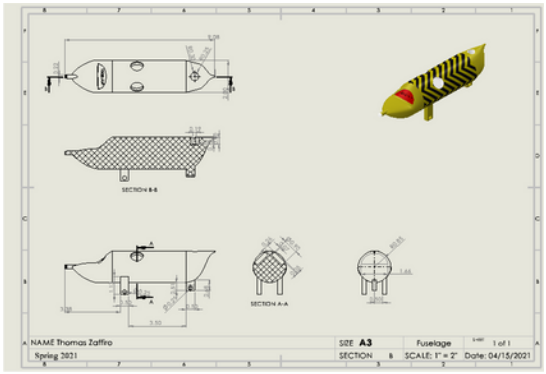
How?

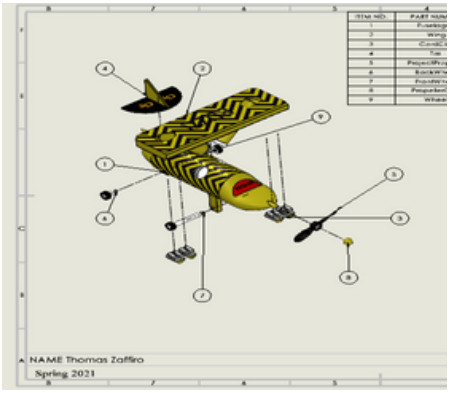
- Modeled in **SolidWorks**
- Utilized **cost analysis** and **structural analysis** to maximize efficiency

Results

- The design was approved for fabrication and is now employed in the Combustion Lab

STINGAIRRETTE MODEL - ME 1770: ENGINEERING GRAPHICS AND DESIGN





What?

- Tasked with designing a multifunctional souvenir for the Georgia Tech gift shop

How?

- Designed using **SolidWorks**
- Utilized **GD&T** to prepare for **3D printing**

Results

- A detailed sheet and part list for the design was submitted to my professor
- The sheet included engineering drawings, views, and renderings