

Education:

Vanderbilt University, Nashville, TN August 2017 – Present

- Mechanical Engineering major
- Current GPA: 3.4/4.0

Skills & Expertise

- **Programming Languages:** C/C++, Python, Java, Lua, MatLab
- **Mechanical Design:** Autodesk Inventor, Autodesk Fusion 360, and Creo Parametric
- **Electrical Design:** Autodesk Eagle, surface mount and through-hole soldering, motor driver design, motor design, microcontroller applications
- **Machining Experience:** Trained on machine shop tools and machines, including operation of lathes, mills, bandsaws, grinders, shears, and metal breaks

Project Experience

Research January 2018 - Present

- Member of the SyBBURE Searle Undergraduate Research Program
- Leading design for experimental carbon nanostructure manufacturing technique, under Dr. Cary Pint, modeled after laser cutter and 3d printing rastering designs.
- Developed custom electrical drivers for controlled electrodeposition and electrophoretic deposition
- Trained on using Zetasizer, fume-hood protocols, ultrasonicators, and ALD

NASA Robotics Mining Competition August 2017 – Present

- Led Material Control Subsystem design for robot built to autonomously mine and collect subsurface materials in a Martian-like environment; Competing against other universities across the US
- Designed and machined specialized parts for robot with dimensional accuracy to 0.001”
- Managing Bill of Materials and project budget for 2018-2019 competition cycle

TinkTank Engineering Outreach Program May 2017 - Present

- Designed circuitry, serial bluetooth communications, and general mechanisms for modular bluetooth-controlled toy car run on Esp32 microcontrollers.

FPV Racing Quadcopters January 2017 – Present

- Designed, built, and programmed FPV racing quadcopter for the Alabama School of Math and Science with the intension of kickstarting a drone racing student organization

Adventures in Mathematics and Science STEM Summer Camp July 2017 & 2018

- Designed and taught courses featuring the building and programming usb game controllers, and child-scale robots, from Arduino microcontrollers, bluetooth communication boards, and breadboard components

Leadership Experience:

Vanderbilt Machine Shop – **Instructing Teaching Assistant** Aug 2019 – Present
Vanderbilt Robotics Team – **Treasurer & Mat. Proccesing Subsystem Lead** Aug 2018 – Aug 2019
Tinktank Outreach – **Treasurer & Systems Design Lead** Sep 2018 – Sep 2019

Business Experience:

Professional Photographer & Videographer May 2017 – Present