

# Ethan James

5060 Bridgecreek Dr. Rockwall TX, 75032  
Phone: 469-652-0062 Email: ethan.james@vanderbilt.edu

## Education

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### Vanderbilt University (Nashville, TN)

Expected May 2020

B.S. in Mechanical Engineering

**Relevant Coursework:** Mechanics of Materials, Statics, CFD and Multiphysics Modeling, Aerospace Propulsion, Machine Analysis and Design, System Dynamics, Heat Transfer, Machining

## Work Experience

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### Booz Allen Hamilton: Summer Games Intern

June 2019–Aug 2019

- Designed and built a network of concealed cameras for object detection and facial recognition
- Rapidly designed and built multiple custom electronic housings using a 3d printer

### Booz Allen Hamilton: Summer Games Intern

June 2018–Aug 2018

- Designed and built a mesh network of buoys with a modular sensor package for pattern of life monitoring
- Rapidly prototyped the buoy housing and launcher using a 3d printer

### GE Aviation: Fleet Data Management Intern (Southwest Airlines)

May 2017–Aug 2017

- Managing logistics of operating and servicing ~1,200 CFM 56-3 and CFM 56-7 jet engines
- Assisted maintenance in optimizing performance and reliability through data analysis
- Helped prepare Southwest for the introduction of the Leap-1B engine into their fleet

### Vanderbilt Surgical Robotics Lab: ME lab assistant (Vanderbilt University)

Sept 2016-Dec 2016

- Worked on rapid prototyping and design for new ideas or surgical techniques
- Iterated on a module that tensions to a known value to perform incisionless surgery with needles
- Designed a linear linkage to attach to a surgical snare to improve ergonomics

### VEX Robotics: High school Engineering Intern

June 2016-Aug 2016

- Prepared, modified, and checked CAD and instructions for kits
- Developed new toy lines consisting of a space theme, flywheel cars, and walking robots

## Leadership Experience

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### Pi Kappa Alpha Treasurer

Dec 2017-Dec 2018

- Manage a budget of ~\$100,000
- Keep track of all expenses future and current through Excel in order to stay on budget

### Rockwall-Heath High School Rocketry President

June 2013 - June 2016

- Competed in the Team America Rocketry Challenge (TARC)
- Managed multiple teams consisting of a total of 15 students

### NASA Student Launch Initiative: Construction Lead

Aug 2012-Apr 2013

- Managed a team of six constructing a 10 ft. rocket with a scientific payload that flew a mile high
- Conducted design reviews with NASA engineers to undergo a series of safety checks before launch
- Project spanned a nine-month period and we worked with a budget of ~\$10,000

## Projects and Extracurricular

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### Vanderbilt Aerospace Design Labs (NASA Student Launch)

Sep 2017-Present

- 6-time NASA Student Launch national champions
- Developing a rocket which deploy a UAV to collect a lunar ice sample

### Vanderbilt Motorsports

Sep 2017-May 2019

- Competing in the Formula SAE Electric competition
- Tasked with designing and building an electric race car
- A part of the powertrain team and in charge of the brake system

### Innovadores: Infant Learning Lab

Aug 2018-Dec 2018

- Designed and built an infant toy for the Vanderbilt infant learning lab's research study
- The toy responded to input from an infant by flashing lights and playing a tune

**Skills:** Microsoft Office Programs, Solidworks, Creo, Matlab, Labview, Machining