

# Nathan Eads

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## Education

### **University of Alabama, Freshman (2019 – 2023)**

Mechanical Engineering  
Honor's College & UA Scholar Merit Scholarship  
3.7 GPA, Dean's List

### **Riverwood High School (2015 – 2019)**

3.8 GPA, Principal's List

## Engineering Experience

### **University of Alabama 3D Printing Lab (August 2019 – Present)**

- Efficiently manage, maintain, and repair fifteen 3D printers of various breeds and designs
- Advise students on 3D printing mechanics, SolidWorks, 3DPrinterOS & Other 3D printing software
- Accurately perform 3D scanning with Artec Space Spider, Artec Eva, and associated software

## Project Work

### **Bama Racing Team – Electrical SubTeam Leader (September 2019 – Present)**

- Install a sensor network and a dashboard display unit to record and monitor engine temperature, RPM, and speed during races.
- Oversee and maintain the electronic engine choke system on both race buggies.

### **Design and Fabrication of Electric Skateboard (2019)**

- Constructed Lithium-Ion battery pack and balance charging system.
- Built a custom belt drive chain and wheel hub to translate power from the 180kV motor to movement.

### **Director of Operations, Riverwood High School MakerSpace (2018 - 2019)**

- Professionally conducted communications between my peers, school administrators, corporate & private donors, and material and tool suppliers.
- Responsibly managed a \$50,000 budget to furnish a MakerSpace for future students.

### **Various Arduino Based Projects**

- Modified dorm room door lock with an NFC reader to read my Student ID card's integrated NFC coil.
- Hacked an R2-D2 toy robot and replaced the standard PCBs with a Bluetooth breakout board, a set of relays, and Arduino, all controlled by a specialized Android application.

## Skills

### **Computer & Hardware**

- Advanced 3D Printing for Fabrication & Rapid Prototyping
- Custom desktop computers, IT, & Networking
- Basic Wood & Metal Fabrication Skills
- Shop/Lab Safety & Etiquette
- Car & Engine Mechanics
- Basic Robotics & Mechatronics
- Soldering & Small Electronic Circuits

### **Software, Code, & Miscellaneous**

- Extensive Experience with SolidWorks, Autodesk Inventor, Cura & 3DPrinterOS Slicers
- HTML/CSS & Website Design
- Arduino IDE & Arduino Hardware
- Java, Android Studio, & Google Cloud APIs
- Basic MATLAB & Python
- Microsoft Office, Rudimentary Adobe Photoshop & Adobe Illustrator

## Activities & Leadership

### **University of Alabama**

- Society of Automotive Engineers
- American Society of Mechanical Engineers
- TUSKA UAV Design Team (Drone Construction and Flight Group)
- UA Astronomical Society
- UA Undergraduate Historical Society

### **Leadership**

- Boy Scouts & Venture Scouts
  - Eagle Scout
  - Organized gear for over 100 active Scouts
  - Coded Website for Venture Crew
- Robotics Team CAD Team Leader
- Tutor at the Riverwood Writing Center
- Conversational French
  - Exchanged with French family over several summers