



## EDUCATION

Bachelor of Science in **Mechanical Engineering**  
The Pennsylvania State University, University Park

**Dean's List:** Fall 2017 & Spring 2018  
GPA: 3.24/4.00 Graduation: **Aug 2020**

## PROFESSIONAL EXPERIENCE

**Cummins Inc.** Columbus, IN | **New Product Development Co-op** Jan 2019 – Jul 2019

- Awarded by the CTO for being the winner of Cummins 100<sup>th</sup> Anniversary Global Innovation Challenge in Technical/Product Category for a solution to minimize counterfeits products
- Headed the development of The Annular Chip, a robotic non-contact motion measurement system for fuel pumps, to perform the eccentric rotational analysis, log data and detect abnormalities
- Advanced development of a high-resolution, non-invasive electromechanical displacement measurement system for needle motion of XPI fuel injectors to aid product design
- Contributed to the advancement of a new fuel injector; focused on failure analysis and solving design issues

**StoneAge Water Blast Tools** Durango, CO | **Robotics Intern** Jun 2018 - Aug 2018

- Designed and implemented a single circuit board to predict failure of a water jetting machine, using various sensors
- Crafted a mounting mechanism for the above system with anti-rotation and shock absorption
- Engineered a manufacturing process to create the system under \$4 by combining PCB manufacturing and machining

**Larsen & Toubro Infotech** Maharashtra, India | **Engineering Research Intern** Jun 2017 - Jul 2017

- Studied and evaluated various products in the market for a classified vehicle's computer system architecture
- Analyzed results from researched data and created a visual model for compliant systems

**PSU Student Technology Services** University Park, PA | **Supervisor** Aug 2017- Dec 2018

- Mentored 100+ Lab Consultants, created evaluation grounds and analyzed the results with higher management
- Exhibited quick evaluation of technical and client complications, and solve them using critical thinking skills

## PERSONAL ENGINEERING PROJECTS

**Side Collision Car Safety System** | SolidWorks, Engineering Mechanics Oct 2017 - Dec 2017

- Developed a car safety system, built into the driver and passenger seats, to decrease the impact of a side collision
- Coded an algorithm to calculate and determine the angle and force of the crash to rotate the seat, reducing the impact
- Attained **Delphi's People's Choice Award** and currently have a **provisional patent**

**Autonomous Fire Fighting Robot** | Circuit Designing, SolidWorks Mar 2017 - Apr 2017

- Created an autonomous fire truck that can navigate through a model house, detect fires and extinguish them
- Designed for the Shepherd University Robotics Festival, **won 2<sup>nd</sup> place**

**Gesture Detection and Analysis Glove** | C++, Java, Python Oct 2016 - Mar 2017

- Developed a method for gesture recognition and processing, and produced a wireless glove to implement it
- The Glove can play musical instruments in mid-air, convert sign language to text and speech, regulate smart appliances, and control computer input via Bluetooth, Wi-Fi, and Radio Frequency

## ACHIEVEMENTS

**Winner**, Cummins 100<sup>th</sup> Anniversary Global Innovation Challenge- Technical/Product Category | 2019    **2<sup>nd</sup> Place**, Voice Activated Challenge by Autodesk | 2018

**Winner**, GM Autonomous Car Challenge | 2018    **2<sup>nd</sup> Place**, Smart Home Challenge by Amazon | 2018

**People's Choice Award**, Delphi Car Safety System | 2017    **2<sup>nd</sup> Place**, Autonomous Fire Fighter Championship | 2017

## SKILLS & EXPERTISE

- Expertise in 3D model designing, electrical schematic & PCB designing ★★★★★
- Wireless communication, sensor integration, voice control, and display technologies ★★★★★
- Motion sensing, tool failure analysis & prediction, and electromechanical system design ★★★★★
- Project Management, Goal Setting ★★★★★
- Prototyping and manufacturing with metals and polymers ★★★★★
- Pro-Engineer, SolidWorks, MATLAB ★★★★★
- Proficiency with mills, lathes, all manners of power tools, and 3D printers ★★★★★
- Minitab, C, C++, Java, Python ★★★★★