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# Justin Sutcliff

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## EDUCATION

### Purdue University – West Lafayette, IN

May 2019

- Bachelor of Science in Aerospace Engineering

## EMPLOYMENT

### Bell – Stress Engineer / Flight Controls Software Engineer– Fort Worth, TX

August 2020 to  
present

- Revised and developed high level requirements-based test procedures for updates to 429 low speed automated flight modes
- Performed initial analysis of and helped plan 412 tail rotor shaft fatigue testing in support of aircraft weight increase
- Developed a bird strike simulation model in LS-Dyna to test critical nose and windshield panels prior to physical testing in order to inform future certification efforts

### Textron Systems – Controls Engineer – Hunt Valley, MD

August 2019 to  
August 2020

- Worked with controls team to develop, test, and tune motion controller for Ripsaw and other tracked vehicle platforms
- Developed prototype embedded system to demonstrate a computer vision algorithm's ability to command the position of a UAS over a moving target
- Developed a mathematical plant model of tracked vehicles to allow controls team to better simulate and tune a body-rate motion controller
- Developed data processing tools to allow engineers to parse, display, and analyze test data faster and more accurately than previously possible
- Upgraded motor controller hardware on subscale test platform to incorporate torque-based control

### Spirit AeroSystems – Design Engineering Intern – Wichita, KS

Summer 2018

- Redesigning Boeing 737MAX over-wing intercostal and supporting structure to incorporate additional emergency equipment installation
- Examined viability of various masking techniques in order to streamline application process of paints and compounds during final stages of fuselage production

### Aerial Agriculture – Research and Development – West Lafayette, IN

September 2015  
to August 2016

- Developed autonomous aerial vehicle platform for capturing multispectral images of vegetation to determine crop health
- Led product development of ground sensor system used to monitor high value crops

## CAMPUS INVOLVEMENT / LEADERSHIP

### Purdue Engineering Presidents Council

August 2017 to  
May 2019

- Coordinate with other student organization leaders on campus to benefit the engineering community
- Functioned as liaison for feedback between students and the Dean of Engineering

### Purdue Drone Club

August 2015 to  
May 2019

- President: (2017 – 2018), Vice President: (2015 – 2016), Founding Member
- Hosted largest collegiate drone racing event in the nation two years in a row

### CDRA – Collegiate Drone Racing Association

August 2017 to  
May 2019

- Founded nonprofit organization for the management of collegiate drone racing
- Designed organization website with ranking system used for yearly competition

## ADDITIONAL SKILLS

- 3D modeling and extensive 3D printing experience (CATIA V5/V6, NX, Solidworks, Fusion 360)
- PCB & circuit design, production, and assembly (KiCad, Autodesk Eagle)
- Software design experience (Java, JavaScript, C/C#/C++, Qt, Android Development, html, python, Linux)
- Extensive MATLAB and Simulink experience

More information about coursework and major personal projects can be found at [justinsutcliff.com](http://justinsutcliff.com)