

# Ronald Engineer

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Education: **Bachelor of Science Physics** May 2019  
Rose-Hulman Institute of Technology, *Terre Haute, IN*  
**GPA: 3.11; GPA in major: 3.30**  
*Related Courses:* Physical Optics, Geometrical Optics, Radiometry, Optomechanics,  
Linear Optical Systems, Optical Materials, Laser Systems, Non-Imaging Optics

Honors & Skills:

- Design-process flow-experimentation setup-physics modeling
- Physics design and optimization using Zemax
- Matlab, C++, PIC-C, OpenGL and AutoCAD
- Optical design and optimization using CodeV
- Writing macros using the CodeV macro language
- Knowledge of tools and procedures used in labs and workshops
- Design of experiments

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Work Experience: **NASA (Physics Intern), Greenbelt, MD** Summer 2018

- Designed, outlined, tested, and programmed a modular autonomous robot with multifunctional Transmissions, accurate and robust dead-reckoning navigation with error correction, and functional aesthetics.
- Designed, outlined, tested, programmed, and fabricated various prototypes of a multiple input touchscreen interface; market, manufacturing, and development costs and analysis figured prominently throughout the project.
- Ran analysis on the WFIRST baseline optical model and placed the data in graphs and tables so that it matched similar documentation that was produced for JWST.
- Made sure that the baseline optical models for WFIRST in both Zemax and CodeV matched.

**L3 Insight Technologies (Engineering Intern), Londonderry, NH** Summer 2017

- Wrote a MATLAB program to filter search for certain characteristics of avalanche photodiodes and fit a curve to the data in order to assist production.
- Worked alongside a coworker in the design of an eyepiece for a rangefinder.
- Helped build prototype eyepieces on a tri-laser alignment machine.
- Assisted in the MTF testing of the same prototype eyepieces.
- Took laser diode divergence measurements.
- Used a thermal chamber to analyze the effects of temperature on the wavelength and irradiance of laser diodes.
- Organized and submitted a large purchasing order of optical equipment and lab supplies.
- Manually focused groups of visible and IR diodes so they could be bonded within spec.

Lab Experience:

- Setup up a standard Michaelson interferometer for use in identifying the index of refraction of air.
- Designed a telescope with a specified f/# and field of view.
- Designed a zoom camera lens for small object viewing at both 10 and 20 ft.

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Affiliations:

- Student member of SPIE (International Society for Optics and Photonics)

Activities: **Rose-Hulman Institute of Technology**

- NCAA DIII Athletics (Baseball)
- Resident Assistant
- Career Services Team
- Robot Team (President)
- Diversity Connect Participant