

# RACHEL JOHNSON

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## EDUCATION

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### University of Notre Dame

*BS in Physics, Glynn Family Honors Program*

*Aug 2020 – May 2024*

*Notre Dame, IN*

- GPA: 3.88, Dean's List
- Selected Coursework: Multivariable Calculus, Mechanics, Mathematical Reasoning, Electricity & Magnetism

## EXPERIENCE

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### Lockheed Martin Aeronautics

*Software Engineer Intern*

*June 2020 – July 2020*

*Fort Worth, TX (Virtual)*

- Developed a Business Asset Management tool using C# to expedite and organize hundreds of change requests for the F35 aircraft and communicated my progress in an Agile team environment.

### Southern Methodist University

*Variable Star Research Collaborator*

*Aug 2019 – Dec 2019*

*Dallas, TX*

- Examined and analyzed photometric data and discovered 6 potential Cepheid variable stars.

### Richardson Math & Science Team

*Co-Captain*

*Sept 2016 – May 2020*

*Richardson, TX*

- Created problems of the week for the club to encourage collaborative problem-solving and active learning.
- Competed at Physics Olympiad Invitational, UT Arlington Calculus Bowl (3rd Place Team), Purple Comet Math Meet (2nd Place Team in Texas) University of Houston Mathematics Contest, UIL Academics and other events.
- Initiated and organized a Q&A event with Grant Sanderson of 3Blue1Brown for junior high students, high school students, college students, and professionals.

## PROJECTS

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### Drip Drop

*Wacode 2020 | Feb 2020*

- Built a website using HTML, CSS, and Bootstrap to educate users on water conservation through projects and quizzes. Also prototyped an irrigation system using an Arduino to optimize for humidity and mitigate water loss.
- Won **2nd Place** at the Wacode Hackathon at Baylor University.

### Biomial Expansion

*EarthXHack 2020 | April 2020*

- Developed a website to educate users on biomes through interactive games. Used HTML, Javascript, CSS, and Google Maps API to place users on the street at the center of a random biome allowing the user to explore and learn about the biome before making a guess about where they are.

### MathWorks Math Modeling Challenge

*MathWorks | Feb 2019, Feb 2020*

- (2019) Built mathematical models to answer questions regarding substance use and abuse. Wrote paper with results. Used regression techniques to model the spread of e-cigarette use over time. **Honorable Mention Team** (2020) Modeled problems related to the infrastructure and adoption of electric semi-trucks. Wrote paper detailing ideas.

## SKILLS

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**Proficient:** L<sup>A</sup>T<sub>E</sub>X, Java, Linux, SVN

**Familiar:** Python, SQL, Bash, Qiskit, C#, HTML, CSS, React, Git, AWS, SSMS, Exceed, Kornshell, Agile

## AWARDS & MEMBERSHIP

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- Society of Physics Students Officer *2020–Present*
- Richardson High School Rank 7 out of 600 *2020*
- Lockheed Martin STEM Scholarship Recipient *2020–Present*
- NCWIT Aspirations in Computing Member *2020–Present*
- Society of Women Engineers (SWE) Scholarship Recipient *2020*
- National Merit Finalist *2020*
- Girls Go Cyberstart CTF Finalist, Scholarship Recipient *2019, 2020*
- Mu Alpha Theta Math Honor Society Member *2016–2020*
  - Club Secretary
  - Scholarship Recipient