

RACHEL E JOHNSON

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EDUCATION

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

SKILLS

Experienced: \LaTeX , Java, Linux, SVN

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

EXPERIENCE

Lockheed Martin Aeronautics

Software Engineer Intern

June 2020 - July 2020

Fort Worth, TX (Remote)

Developed a Business Asset Management tool using C# to expedite and organize hundreds of change requests for the F-35 aircraft and communicated my progress in an Agile team environment.

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 from the YouTube channel 3Blue1Brown for junior high students, high school students, college students, and professionals.

Southern Methodist University

Variable Star Researcher

Aug 2019 - Dec 2019

Dallas, TX

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

PROJECTS

Calculating e Using Monte Carlo Methods and Quantum Amplitude Estimation

Team Airier-Lei

iQuHACK | Jan 2021

MIT (Remote)

Implemented a Monte Carlo simulation using Qiskit to estimate the mathematical constant, e and applied a quantum speedup algorithm to increase efficiency.

Drip Drop

Project Developer

Wacode 2020 | Feb 2020

Baylor University

Built a website using HTML, CSS, and Bootstrap to educate users on water conservation through projects and quizzes.

Prototyped an irrigation system using an Arduino to optimize for humidity and mitigate water loss. **2nd Place Team**

MathWorks Math Modeling Challenge

Research Specialist, Team Lead

MathWorks | Feb 2019, Feb 2020

MathWorks

(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.

AWARDS & MEMBERSHIP

Society of Physics Students

2020-Present

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