

RACHEL E JOHNSON

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EDUCATION

University of Notre Dame

BS in Physics and Mathematics, Glynn Family Honors Program

Aug 2020 - May 2024

Notre Dame, IN

Selected Coursework: Quantum Computing, Linear Algebra, ODEs, Real Analysis, Multivariable Calc, Int Mechanics, Intro Electricity and Magnetism, Circuitry and Electronics, Creation Ecology Technology

SKILLS

Experienced: \LaTeX , Linux (Ubuntu, RHEL, CentOS, Kali), Python, Qiskit, HTML, CSS, Java, Git

Familiar: SQL, Pytorch, C++, C#, React, WordPress, Agile, Jenkins, SVN, AWS, Azure, Bash

EXPERIENCE

Lockheed Martin Space

Quantum Computing Intern

May 2022 - Aug 2022

Sunnyvale, CA

Researched the Quantum Approximate Optimization Algorithm (QAOA) and analyzed the effect of randomized compilation error mitigation software

Notre Dame High Energy Physics

ML Event Reconstruction Research Collaborator

Sept 2021 - Present

Notre Dame, IN

Collaborated across physics and computer science departments to apply a transformer neural network to particle physics data from CERN's Compact Muon Solenoid (CMS) experiment to better classify top quark collisions.

The Observer (ND-SMC)

Systems Administrator

May 2021 - Present

Notre Dame, IN

Maintain WordPress website (over 2500 views per day) and troubleshoot computer issues for student-run newspaper.

Lockheed Martin Space

Linux Systems Intern

June 2021 - Aug 2021

Littleton, CO

Supported the Geostationary Operational Environmental Satellite (GOES) IT team with various hardware and software needs such as independently creating an internal website for live streaming 4 camera feeds, setting up servers in the clean room, kickstarting RHEL machines, and mitigating critical vulnerabilities in preparation for the February 2022 launch.

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.

PROJECTS

Campfire

Lead Web Developer

Hesburgh Hackathon | Apr 2021 - May 2021

University of Notre Dame, IN

Used React JS, HTML, and CSS to develop a web app that builds community and eliminates food waste. Through the app, users can view a system of food cameras installed in their community (i.e. dorm kitchens or lounges) that allow people to share leftovers. **3rd Place Team**

Calculating e Using Monte Carlo Methods and Quantum Amplitude Estimation

Team Airier-Lei

iQuHACK | Jan 2021

MIT, MA (Remote)

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

AWARDS & MEMBERSHIP

ND Tech Ethics Center Undergraduate Affiliate

2021-Present

Cyber Fasttrack Scholarship Recipient

2021

Lockheed Martin STEM Scholarship Recipient

2020-Present

Society of Women Engineers (SWE) Scholarship Recipient

2020

National Merit Finalist

2020

MathWorks Math Modeling Challenge Honorable Mention Team

2019