RACHEL E JOHNSON

(214)537-5051 ⋄ rjohns27@nd.edu
rachelejohnson.com ⋄ linkedin.com/in/rjohns27/

EDUCATION

University of Notre Dame *Aug 2020 - May 2024*
BS in Physics and Mathematics, Glynn Family Honors Program *Notre Dame, IN*

GPA: 3.84

Selected Coursework: Linear Algebra, Real Analysis, Multivariable Calc, Mechanics, Physics - E & M, Circuitry

SKILLS

Experienced: LaTeX, Linux (Ubuntu, RHEL, CentOS, Kali), Python, HTML, CSS, Java, Git
Familiar: SQL, Pytorch, Qiskit, C++, C#, React, WordPress, Agile, Jenkins, SVN, AWS, Azure, SSMS, Bash

EXPERIENCE

Notre Dame High Energy Physics *Sept 2021 - Present*
ML Event Reconstruction Research Collaborator *Notre Dame, IN*

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

The Observer (ND-SMC) *May 2021 - Present*
System Administrator *Notre Dame, IN*

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

Lockheed Martin Space *June 2021 - Aug 2021*
Linux Systems Intern *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.

Lockheed Martin Aeronautics *June 2020 - July 2020*
Software Engineer Intern *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 *Hesburgh Hackathon | Apr 2021 - May 2021*
Lead Web Developer *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 *iQuHACK | Jan 2021*
Team Airier-Lei *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

Cyber Fasttrack Scholarship Recipient	*2021*
Society of Physics Students (Officer)	*2020-Present*
Women in Physics	*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*
MathWorks Math Modeling Challenge Honorable Mention Team	*2019*