

RACHEL E JOHNSON

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EDUCATION

University of Notre Dame *Aug 2020 - May 2024*
BS in Physics and Mathematics, Glynn Family Honors Program *Notre Dame, IN*
Selected Coursework: Quantum Computing, Quantum Mechanics, Thermal Physics, Linear Algebra, ODEs, Real Analysis, Classical Mechanics, Electricity and Magnetism, Circuitry and Electronics, Creation Ecology Technology, Game Theory

SKILLS

Experienced: \LaTeX , Linux, Python, Qiskit, HTML, CSS, Git, Bash
Familiar: SQL, Pytorch, C++, C#, Java, React, WordPress, Agile, SVN, AWS, Azure, Apache, DNS, Soldering, IC Fabrication techniques, GIMP, Domino, Computer Networking, Computer Hardware, Lindy Hop, Charleston

EXPERIENCE

Lockheed Martin Space *May 2022 - Present*
Quantum Computing Intern *Sunnyvale, CA \rightarrow Remote*
Researching quantum optimization algorithms and analyzed error. Currently working to characterize and mitigate certain types of errors on superconducting quantum hardware.

Notre Dame High Energy Physics *Sept 2021 - May 2022*
ML Event Reconstruction Research Collaborator *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) *May 2021 - Present*
Systems 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 in preparation for the February 2022 launch.

Lockheed Martin Aeronautics *June 2020 - July 2020*
Software Engineer Intern *Fort Worth, TX (Remote)*
Built a new internal tool for organizing F-35 maintenance using C# and SQL in an Agile 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

ND Tech Ethics Center Undergraduate Affiliate	<i>2021-Present</i>
Cyber Fasttrack Scholarship Recipient	<i>2021</i>
Lockheed Martin STEM Scholarship Recipient	<i>2020-Present</i>
Society of Women Engineers (SWE) Scholarship Recipient	<i>2020</i>
National Merit Finalist	<i>2020</i>
MathWorks Math Modeling Challenge Honorable Mention Team	<i>2019</i>