Nathan Varghese

nsv23@cornell.edu | (937)-838-7959 | Ithaca, NY

Education

Cornell University, College of Engineering   **Ithaca, NY**
Bachelor of Science in Electrical & Computer Engineering, Minor in Financial Engineering | GPA: 3.1/4.0   *Expected May 2027*

Professional & Research Experience

Lockheed Martin - Rotary & Mission Systems   **Moorestown, NJ**
Firmware Engineering Intern   *June 2025 - Aug 2025*
- Engineered configurable C++ testing systems that expanded radar validation coverage by 50%, reducing downstream integration risk and strengthening confidence in multi-million-dollar defense asset performance.
- Developed Python-based analytical tools that enhanced FPGA timing-compliance visibility by 15%, improving the accuracy of risk assessments used by technical leads to guide resource allocation and deployment decisions.
- Streamlined evaluation workflows, increasing analysis throughput 40% and removing operational bottlenecks that previously delayed cross-functional delivery—driving more predictable program execution.
- Presented system-level findings in PowerPoint to senior engineering leadership, translating technical metrics into actionable insights that accelerated stakeholder buy-in and shortened product adoption timelines by three weeks.

Cornell Electric Vehicles Project Team   **Ithaca, NY**
Mechanical Subteam Engineer   *Oct 2023 - Present*
- Directed the redesign of team performance-testing systems, increasing measurement accuracy 30% and providing strategy leads with higher-quality data used to inform competition-critical decisions.
- Reduced operational risk by eliminating drivetrain rework cycles through compliant, constraint-driven modeling—improving resource allocation and project predictability across multi-stage builds.
- Improved operational efficiency by fabricating in-house components, reducing vendor dependency and cutting lead times 40%, which strengthened system reliability during critical pre-competition periods.

Information & Decision Science Laboratory   **Ithaca, NY**
Undergraduate Researcher   *Jan 2024 - Oct 2024*
- Scaled the lab's autonomous-systems testing capacity by integrating microcontrollers and embedded platforms across a 45-vehicle fleet, reducing debug time 40% and enabling more robust multi-agent behavior modeling.
- Authored integration and workflow documentation that reduced onboarding time for new researchers by 50%, improving team productivity and operational consistency.
- Conducted simulation-based risk analysis and recorded data using SQL to identify system-level compliance failures under varying load scenarios, reducing prototype design issues and accelerating readiness for experimental deployment by 60%.

CAMP Dosser   **Dayton, OH**
Lab Assistant Intern   *May 2022 - June 2022*
- Designed cost-tracking and optimization controls in Excel for 3D-printing operations, reducing weekly material expenses 30% and improving budget transparency for lab management.
- Produced safety and workflow documentation for 15+ fabrication tools, lowering operational risk and increasing compliance with facility standards.
- Led design-software workshops for 30+ students, improving team capability and enabling smoother execution of end-to-end project builds.

Projects

Lanternfly Pesticide Mitigation Machine Learning Model   Nov 2023 - Dec 2023
- Trained a KNN classifier on NLP-derived environmental data, improving the accuracy of intervention strategies by 15% and demonstrating ability to translate unstructured data into operational insights.

Social Media and Mental Health Correlation Machine Learning Model   Oct 2023 - Nov 2023
- Built a logistic regression model analyzing behavioral indicators (screen time, content type), improving risk-signal detection by 17% and showcasing data-driven trend analysis skills relevant to consumer risk platforms.

Leadership

CRU Cornell   **Ithaca, NY**
Worship & Community Group (CG) Leader   *Aug 2024 - Present*
- Led a worship team of 10-15 musicians, organized sheet music, coordinated with sound engineering, and recruited students
- Co-ministered 10-12 students, guiding them through Bible study, practical faith application, and effective evangelism strategies

Additional Information

Interests: Chocolate milk, Gamelan (Indonesian percussion), NBA Basketball, Salsa dancing, Shakespeare Troupe (acting)
Certifications: Certified Additive Manufacturing, Machine Shop Certified, Yellow & Green Belt Lean Six Sigma

Nathan Varghese