# Jason Nguyen

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## EDUCATION

**Lawrence Technological University**, *Southfield, MI* Aug 2022 - May 2026
*Bachelor of Science in Computer Science*

- Cumulative GPA: 3.4
- Dean's List: 2 Semesters
- Coursework: Operating Systems, Computer Networks, Data Structures, Software Architecture, Intelligent Robotics with ROS, Theory of Computation, Computer Architecture and Assembler, Software Quality and Project Management, Software Engineering, Java, Database Systems, Data Science

## WORK EXPERIENCE

**BorgWarner**, *Auburn Hills, MI* Jun 2025 – Present
*IT Infrastructure Automation Intern*

- Designed and implemented automated cloud backup infrastructure and solutions using Terraform and Azure, improving data protection, reducing manual intervention by 30%, and enabling secure and scalable backups for SAP Enterprise, SAP Voyager, SQL Server, and PostgreSQL workloads
- Develop infrastructure-as-code (IaC) for cloud resources using Terraform and Ansible, streamlining provisioning, configuration, and creation of Azure virtual machines, storage accounts, and containers, backup policies, recovery service vaults, bastion hosts, function app plan and connection, virtual networks, private end points, network interface cards, and event grids, enabling scalable infrastructure deployment across multiple regions
- Built and maintain cloud automation and CI/CD pipelines using Terraform Cloud, Red Hat Ansible, GitHub, and Azure DevOps Server, accelerating deployment cycles and improving reliability in production
- Optimize cloud storage and backup strategies by analyzing usage patterns and retention policies, reducing costs by 15%, and enhancing data resilience
- Collaborate with global IT teams across APAC, EMEA, and NCSA to standardize cloud infrastructure automation practices and drive operational efficiency

**Lawrence Technological University**, *Southfield, MI* Feb 2025 – Present
*Research Assistant*

- Conducts experiments with the Unitree Go2, using ROS, collecting and analyzing sensor data in Excel to simulate applications in hazardous environments and condition monitoring
- Collaborated with Professor Wisam Bukaita to research robotic perception using LiDAR for environment mapping and obstacle avoidance in robotic dogs
- Researched inclusive practices in software engineering with Professor Destiny Anyaiwe, focusing on the participation and accessibility needs of blind and visually impaired individuals in the tech industry
- Researching autonomous guided vehicles in heavy traffic warehouses with Professor Eric Martinson, focusing on finding an efficient solution where companies won't need to stop all operations, but instead, develop traffic integration in a simulation to combat real-world applications

*Student Assistant* May 2025 – Jul 2025

- Guides 20+ high school students in programming robotic dogs using Python to perform autonomous movements and respond to sensor input
- Supports instruction in Python programming fundamentals by mentoring high school students through coding challenges and robotic simulations
- Assist 12+ high school students in designing 3D models using CAD software and facilitate the operation of 3D prints to fabricate physical prototypes
- Provides hands-on guidance in troubleshooting print errors and optimizing print settings to achieve accurate and high-quality results

*Teaching Assistant* Jan 2025 – May 2025

- Supports 40+ undergraduate students in understanding core concepts of Calculus I & II, including limits, derivatives, integrals, sequences, and series
- Conduct weekly lab sessions and problem-solving workshops, clarifying lecture material and reinforcing key mathematical principles
- Develops and demonstrates R scripts for real-world applications such as descriptive statistics, regression analysis, and hypothesis testing.
- Leads lab sessions introducing statistical analysis and data visualization using R programming on how it compiles and executes

**The Blue Times Student Newsletter**, *Southfield, MI* Nov 2023 – Present
*President*

- Compiles monthly reports highlighting campus opportunities, including jobs, internships, and research positions, for the Lawrence Tech student body
- Coordinates team meetings, editorial calendars, and contributor deadlines to maintain consistent publication cycles
- Oversee the editorial process from pitch to publication, ensuring clarity, accuracy, and alignment with journalistic standards
- Revamped the newsletter's content strategy and design layout, resulting in a 50% increase in student readership and engagement
- Interviewed Professors Paula Lauren and Franco Delogu on integrating VR and AI to enhance immersive learning and conceptual understanding

## PROJECTS

**Personal Portfolio Website** Feb 2025 – Present

- Hosts and version-controls the site through GitHub, implementing responsive design and clean UI for an optimized user experience
- Developed a personal portfolio website to showcase projects, work experience, skills, and campus involvement using HTML, CSS, SCSS, and JavaScript
- Registered a custom domain and configured DNS to redirect traffic from GitHub Pages to jasonbaoduy.com

**Vending Machine Simulator** Sep 2025 – Oct 2025

- Designed and implemented a command-line vending machine simulation in C++ featuring two operating modes: Service Mode (for restocking and maintenance) and Normal Mode (for customer transactions)
- Built a mode-locking system with password authentication to switch securely between service and normal operations
- Programmed inventory management for drinks, cups, coins, and bills, ensuring accurate stock tracking and preventing invalid dispensing operations
- Implemented transaction logic to handle customer payments, calculate change, and manage insufficient funds or empty inventory cases

**ROS Mobile Robot** Aug 2024 – May 2025

- Conducted extensive field testing to validate mapping accuracy, path tracking stability, and obstacle response
- Developed a mobile robot capable of autonomously tracking a blue line using computer vision techniques and ROS control systems using Python, C++, and integrated launch files, transform masking, URDF model, TF tree, Hector SLAM map, laser scan, and odometer into RVIZ
- Integrated LiDAR sensor and publishing data to implement real-time obstacle detection and avoidance for dynamic environments, where once the mobile robot detects an object in front of it, it will spin 180 degrees and go the opposite way to avoid the obstacle in its path

## TECHNICAL SKILLS

**Programming Languages:** Terraform, Ansible, HashiCorp Configuration Language, Python, JSON, YAML, PowerShell, Java, JavaScript, C++, C, SQL, R, CSS, HTML

**Developer Tools:** Terraform Cloud, Red Hat Ansible, Azure DevOps Server, Microsoft Office, Visual Studio Code, GitHub, Git, Eclipse, RStudio, WSL, Linux, Ubuntu, ROS Noetic, MySQL, Power BI, Wiki.js