Jason Nguyen

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EDUCATION

Lawrence Technological University, *Southfield, MI*   Expected Graduation: May 2026
Bachelor of Science in Computer Science
- Cumulative GPA: 3.4 || Dean's List: 2 Semesters

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 with Professor Wisam Bukaita to research robotic perception using LiDAR for environment mapping and obstacle avoidance
- 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 on 'Personalized Real-to-Sim-to-Real Navigation with Gaussian Splats from a Mobile Device' with Professor Eric Martinson on the temporal side of scanned environments

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 and facilitate operation of 3D prints to fabricate physical prototypes

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
- 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 and oversee the editorial process
- 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

AI Study Planner   Oct 2025 – Nov 2025
- Developed a full-stack web application that intelligently generates personalized study schedules for college students using AI-driven task prioritization
- Designed and built RESTful APIs in Spring Boot to handle task creation, prioritization, and calendar scheduling logic
- Built an interactive React.js frontend with dynamic task management and calendar visualization for planned study sessions
- Engineered an AI-based scheduling algorithm in Java that ranks tasks by deadline urgency and difficulty to optimize study efficiency
- Integrated PostgreSQL for persistent data storage of users, tasks, and performance metrics with transaction safety

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)
- 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
- Built a mode-locking system with password authentication to switch securely between service and normal operations

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, VS Code, Visual Studio, GitHub, Git, Eclipse, RStudio, WSL, Linux, Ubuntu, ROS Noetic, MySQL, Power BI, Wiki.js, VMware, React.js, Spring Boot, PostgreSQL, Maven