

Qianyue (Holly) Xue

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SUMMARY OF QUALIFICATIONS

- Software engineer with experience designing, developing, and testing applications across academic, professional, and personal projects, delivering reliable and maintainable solutions.
- Proficient in multiple programming languages with strong problem-solving, debugging, and architecture skills.
- Hands-on experience in gathering functional requirements, automating workflows, and documenting processes to support cross-functional teams and ensure project clarity.
- Skilled in web development, system administration, network configuration, and data analysis.
- Strong collaborative skills, with experience working in multi-disciplinary teams, communicating technical solutions to both technical and non-technical stakeholders.

EDUCATION

Master of Engineering in Electrical & Computer Engineering <i>University of Toronto</i> , Toronto, ON	2024 - 2026
Graduate Emphasis in Robotics	
Average GPA: 3.89/4.0	
Relevant Courses: AI Applications in Robotics, Internet of Things, Mobile Robotics and Perception, Networks for AI Digital Image Processing and Applications, Game theory, Signal processing, React	
Bachelor of Science, Honors Specialization in Computer Science <i>Western University</i> , London, ON	2019 - 2024
Dean's Honor List	2019, 2023 - 2024
Average GPA: 3.7/4.0	
Thesis: A Systematic Study of Localization Problem and Solution in the Internet of Robotic Things	2024
Relevant Course: Object-Oriented Design & Analysis, Data Structures & Algorithms, Network Structure, Network Security, Human-Computer Interaction, Artificial Intelligence, Project Management	

PROFESSIONAL EXPERIENCE

IT Support Technician <i>Faculty of Dentistry at University of Toronto</i> , Toronto, Canada	Oct. 2024 – Aug. 2025
■ Performed diagnostics, repairs, and software deployments and upgrades for computers and peripherals, ensuring timely issue resolution.	
■ Maintained and supported departmental printers and network closet infrastructure, performed network closet rewiring, patch panel management, and cable labeling with updated infrastructure documentation.	
■ Developed and maintained PowerShell scripts to automate updates for 1,000+ inventory entries in Access Directory, improving efficiency and data accuracy.	
■ Authored and organized 100+ technical documents and source files to enhance internal knowledge sharing.	
Network Support Technician <i>Connect-IT at Western University</i> , London, Canada	Aug. 2023 – Apr. 2024
■ Managed IT support requests via Hermes system, documenting maintaining detailed resolution histories.	
■ Diagnosed and resolved network issues, including IP network protocol issues and hardware malfunctions, for students living in campus residences, ensuring minimal downtime and consistent internet availability.	
■ Compiled and analyzed support request data on a monthly and semester basis, generated reports to recommend workflow improvements, optimizing service delivery.	
5G Automation Engineer Intern <i>Ericsson Telecommunications company</i> , Beijing, China	Feb. 2022 – Aug. 2022

- Designed and implemented Java-based automated testing frameworks for enterprise router software, integrating with CI/CD pipelines.
- Developed end-to-end automation pipelines for router synchronization, firmware upgrades, rollbacks, and removals, improving reliability and reducing manual testing effort by 80%.
- Executed automated test suites across 100+ deployments, identifying defects efficiently.
- Authored detailed technical documentation including architecture diagrams, API references, and troubleshooting guides to support cross-team knowledge sharing.

Game QA Analyst Intern

Managene Games, Beijing, China

Aug. 2021 - Feb. 2022

- Collaborated with engineering teams to triage and resolve in-game bugs, improving QA workflow efficiency.
- Managed and responded to user support tickets, consolidating feedback into structured bug reports with annotated screenshots and step-by-step reproduction guides.
- Maintained and updated text assets to ensure localization accuracy and UI/UX consistency across releases.

TECHNICAL SKILLS

Programming & Scripting: Python, Java, C/C++, JavaScript, PowerShell, Scheme, Assembly

Web & Interfaces: React, Next.js, HTML, XML, LaTeX, user interface development

Systems & Tools: Linux (Ubuntu, RPi OS), Windows, macOS, Git, Active Directory, system administration

Embedded & IoT: Arduino, ESP32/ESP8266, Raspberry Pi, UART, I2C, SPI, BLE, MQTT

Networking & Protocols: TCP/IP, Socket Programming, HTTP APIs, Wi-Fi, network troubleshooting

Data & Databases: PostgreSQL, Pandas, NumPy, Power BI, R, data analysis, data integration

RESEARCH PROJECTS

Quadruped Robot Dog Navigation Simulation

- Developed simulation software for a quadruped robot dog, implementing path planning, sensor fusion, and wireless data communication via Wi-Fi.
- Designed and implemented a graph-optimization-based SLAM module for real-time mapping and localization, along with A* path planning and motion control algorithms for efficient navigation.
- Built dynamic obstacle detection and avoidance features, enabling autonomous navigation and remote monitoring in complex environments.

IoT Smart Waste Classification System

- Built an edge-to-cloud IoT system with Arduino devices and a Raspberry Pi MQTT broker for real-time sensor data collection and control.
- Developed backend services and APIs for image transmission, AI inference requests, and actuator commands, ensuring reliable orchestration.
- Deployed real-time image classification pipeline on Google Cloud Run with cloud storage for data storage.
- Built a Web UI for automated/manual operation with real-time monitoring and fault-tolerant management.

CERTIFICATES

AWS Cloud Practitioner Essentials

2025

VOLUNTEER EXPERIENCES & EXTRA-CURRICULUM ACTIVITY

Project Manager & Localization Lead, PC Game (KOTOR) Chinese Translation Mod

Online

June. 2025 - Ongoing

Judge, VEX Robotics Ontario V5RC HS Provincial Championships

Unionville, Canada

Feb. 2025, Nov 2025

Drumline member, Western Marching Band

Western University, London, Canada

Sep. 2019 - Apr. 2024