

# Qianyue (Holly) Xue

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## SUMMARY OF QUALIFICATIONS

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- 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

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**Master of Engineering in Electrical & Computer Engineering** 2024 - 2026

*University of Toronto*, Toronto, ON

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** 2019 - 2024

*Western University*, London, ON

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

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### IT Support Technician

*Faculty of Dentistry at University of Toronto*, 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

*Connect-IT at Western University*, 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

*Ericsson Telecommunications company*, 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

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**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

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#### 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

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AWS Cloud Practitioner Essentials

2025

### VOLUNTEER EXPERIENCES & EXTRA-CURRICULUM ACTIVITY

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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