Chris Wu

(613) 879-2755 | chris.wu1@uwaterloo.ca | linkedin.com/in/chriswu2222 | github.com/ChrisWu0000 | chriswu.tech

Highlights

- **Academic Excellence:** Ranked Top 3 in University of Waterloo Computer Engineering cohort (4.0 GPA); recipient of the President's Scholarship of Distinction
- **Systems & AI Automation:** Built autonomous Python-based triage agents, LLM tool-calling workflows, and distributed CI/CD integration pipelines at Ciena and Nokia
- **Embedded Systems & Infrastructure:** Experience validating high-speed optical transceivers (WL6n), CMIS telemetry, and DPI/DDoS mitigation platforms across Linux environments
- **Industry Certifications:** CompTIA Security+ (SY0-701), Cisco CCNA, and Microsoft Azure Fundamentals (AZ-900) covering network infrastructure, threat response, and cloud architecture
- **Security Clearance:** Active Government of Canada Reliability Status clearance; trained in protocols for handling protected information

Education

University of Waterloo Sep. 2024 - Present
Bachelor of Applied Science in Computer Engineering (Co-op) *Waterloo, ON*

- **First in Class Engineering scholarship**, President's Scholarship of Distinction, 4.0 GPA
- **Relevant Coursework:** Algorithms and Data Structures, Probability Theory and Statistics, Discrete Mathematics and Logic, Chip Design and Tape Out, Embedded Microprocessor Systems, Systems Programming and Concurrency, Digital Computers, Electronic Circuits

Technical Skills

Languages: Python, C++, C, Bash, JavaScript, TypeScript, HTML, CSS, Java, TCL, Verilog, VHDL
Frameworks/Libraries: Pytest, LiteLLM, NumPy, Pandas, PyTorch, TensorFlow, Cocotb, Pygame
Systems/Tools: Git, GitHub, Docker, Ubuntu, Jira, Confluence, OpenSearch, Wireshark, GASH, PyShell
Cloud/DevOps: Jenkins, REST APIs, Microsoft Azure, GitHub Actions, Cisco CLI, Nokia MDCLI, VS Code, PyCharm

Experience

Software Developer May 2026 – Aug. 2026
Ciena – Embedded Software Integration Testing Team *Ottawa, ON*

- Built **Jira/Jenkins REST API** data pipelines to extract complex register dumps and build data, automatically generating structured bug reports that cut triage latency by **30%**
- Architected real-time **OpenSearch** observability dashboards and automated **Confluence** sync pipelines to aggregate, process, and track **30+** physical-layer and firmware health metrics across release builds
- Developed agentic internal developer tools in **Python** using **LiteLLM** to diagnose distributed **CI/CD** failures, query build logs across **Jenkins**, and serve automated root-cause summaries
- Engineered the scaling of **CI/CD** infrastructure for hardware testbeds, optimizing parallelized execution and dynamic pipeline scheduling to improve testing throughput by **25%**
- Programmed autonomous **Microsoft Teams** bot integrations in **Python** to broadcast real-time telemetry alerts and pipeline failure notifications directly to engineering channels

Quality Assurance Engineer Sep. - Dec. 2025
Nokia - Application Assurance and Defender Mitigation System Teams *Ottawa, ON*

- Architected and maintained a scalable backend automated testing application using **Pytest** and **PyShell** to validate application identification technologies within a **Linux** environment

- Engineered the modernization of legacy infrastructure by refactoring over **80 TCL** and **Bash** scripts into a centralized **Python** backend, significantly improving data reporting structure and system maintainability
- Developed automated data collection and analysis tools in **Python** to capture, parse, and evaluate high-volume network traffic patterns and packet inspection data for application signature validation
- Integrated version control and **CI/CD** best practices using **Git** to streamline the software development lifecycle, treating the test suite as a production-ready software product
- Designed and implemented comprehensive test suites to validate **Deep Packet Inspection** and **DDoS** mitigation systems, ensuring reliability for high-availability enterprise network deployments

Azure Application Developer Jan. - Apr. 2025
MD Pharma *Waterloo, ON*

- Engineered the core backend architecture for a prototype AI wellness application, integrating **Microsoft Azure Cognitive Services** to ingest, process, and analyze massive volumes of unstructured natural language conversational data
- Developed advanced sentiment analysis data pipelines and integrated **Azure Language Understanding** models to accurately evaluate user emotional context and health input severity
- Built highly scalable **RESTful APIs** to organize raw patient data into structured reports, delivering dynamically generated, context-aware responses with a validated **91%** accuracy rate

Software Lead Sep. 2024 – Aug. 2026
Waterloo Rocketry *Waterloo, ON*

- Directed the software subteam, coordinating the end-to-end development of flight simulation engines and telemetry pipelines through rigorous code reviews and cross-functional hardware integration
- Engineered the core backend services and high-throughput telemetry processing pipelines in **Python** and **Java** to ingest, decode, and route real-time sensor streams into structured databases
- Developed the frontend visualization components for the Omnibus ground station web dashboard, translating raw backend telemetry into accessible, real-time interactive UI displays for launch operations

Projects

ASIC 8-Point FFT Processor | *Verilog, Python, Tiny Tapeout, CI/CD*

- Designed an 8-point Fast Fourier Transform processor in **Verilog** for fabrication via **Tiny Tapeout**
- Developed testbenches using **Cocotb** to verify digital logic and verify frequency domain calculations
- Configured automated **CI/CD pipelines** via GitHub Actions to validate logic synthesis and hardware

WatRooms | *C++, STM32, Bluetooth, Git*

- Designed and prototyped a campus study room access device using Bluetooth communication and student number authentication for the Project Studio course
- Developed a hardware booking and authentication system, integrating C++ on STM32 microcontrollers
- Utilized HC-05 Bluetooth modules to manage secure communication over a Personal Area Network

Certifications

- **CompTIA Security+ (SY0-701)** – Validated expertise across enterprise security architecture, vulnerability management, threat response, and incident remediation operations (Obtained Sep. 2026)
- **Cisco Certified Network Associate (CCNA)** – Validated network access, IP connectivity, IP services, and security fundamentals. Completed configuration labs for Cisco routers/switches including VLANs, trunking, ACLs, and OSPF (Obtained Apr. 2025)
- **Microsoft Azure Fundamentals (AZ-900) & Azure AI Fundamentals (AI-900)** – Demonstrated foundational knowledge of cloud concepts, core Azure governance tools, and cloud-driven AI solution development (Obtained Feb. 2025)