

Peisong Xiao

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Work Experiences

Super.com *Software Engineering Intern - Infrastructure* **Remote** 01/2026 - 04/2026

- Boost company-wide productivity through integration of AI in tools.
- Work with cutting edge infrastructure tools to accelerate development and deployment across the company.
- Contribute directly to the bottom line with cost savings initiatives and optimizations for FinTech platforms.
- Transferable skills: CI/CD, AWS, Redis, PostgreSQL, Kubernetes, Terraform, Helm, DevEx & DevOps, AI tooling.

Huawei Canada *Assistant Network Engineer, Intern (DCN Lab)* **Waterloo** 05/2025 - 08/2025

- Conducted experiments on datacenter networks targeting LLM workloads using network simulators.
- Helped develop proprietary congestion control schemes and cross analyzed against the latest UEC schemes.
- Analyzed the performance of different load balancing schemes and investigated performance degradations.
- Designed and implemented a link failure and dynamic routing adjustment scheme in simulation.
- Researched networking for AI/ML computation providers and novel inference hardware (Cerebras WSE).
- Transferable skills: Linux, C++, Python, **high-performance networking**, **data visualization**, **analysis**, and **reporting**, network simulation, test automation, **researching**, teamwork, **hardware-aware algorithm design**.

Nokia *IP Router Platform Testing Dev Student (Satellite Team)* **Ottawa** 09/2024 - 12/2024

- Received training on IP-based networks and related tools and used scripts to automate regression testing.
- Constructed new framework reducing setup time for regression testing by up to 60%.
- Designed new testing framework to reduce code duplication by 80% and increased test coverage by 500%.
- Transferable skills: Linux, Tcl, scripting, **network infrastructure**, **test design**, **teamwork**, **automation**.

Side Projects

ThreadWeaver - Lock-Free Multithread Communication Library 12/2025 - Present

- RDMA-inspired implementations of SPSC, MPSC, and SPMC queues without CAS retry loops.
- Built-in thread-local scheduler to guarantee bounded waiting and provide fairness.
- Clear ownership and cache line-aligned memory layout to reduce cache coherence traffic and avoid false sharing.
- Transferable skills: C++, **systems architecture**, **concurrency**, hardware-specific optimizations, **algorithms**.

DOFS - Datacenter Observability and Failover Simulator 08/2025 - Present

- Framework for modeling datacenters and failover policies.
- Designed to scale by providing a simple configuration process and parallel/queued simulations.
- Transferable skills: C++, Python, **systems architecture**, **event-driven simulation**, networking.

ROSE - RDMA Over SPI Engine 05/2025 - 09/2025

- SPI-based, RDMA-enabled, network system based on Raspberry Pi's and FPGAs.
- Self-designed low-cost networking system for ultra-low latency networking with scale up potential.
- Transferable skills: **Verilog/SystemVerilog**, C, **Linux kernel programming**, hardware programming, systems design.

2020 National Olympiad in Informatics (NOIP 2020) *1st Prize* 12/2020

- Transferable skills: C++, data structures and algorithms design.

Personal Sites

Main Site peisongxiao.com

Git Server git.peisongxiao.com/peisongxiao

Private LLM Inference Server

- Exposed to other servers using virtual private networks with end-to-end encryption via WireGuard.
- Relevant skills: Linux, **systems engineering**, LLM inference service, **network security**, VPN, **nginx**.

Skills Summary

- **Hard skills**: C, C++, Python, Tcl, Git, Linux, Verilog, SystemVerilog, data structures, algorithms, linear programming, test automation, data visualization, high-performance networking, system design.
- **Soft skills**: analytical thinking, self-motivation, adaptability, teamwork, interpersonal communication, conflict resolution, time management, organization, leadership, presentation.

Education

Bachelor of Computer Science *GPA: 3.9/4.0* **University of Waterloo** **Waterloo, Canada** 2023 - 2028