Brian Won (Injong)

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Education

Class 2025 **B.Sc in Computer Science**, *University of Toronto*, Teaching Assistant: Network computing, Operating Systems.
Honours

Skills

Languages Python, C/C++(concurrency, multithreading), Java, JavaScript, SQL
Frameworks PyTorch, React, Express, Node.js, Docker, Kubernetes
Tools Git, AWS/GCP, Linux, CI/CD (GitHub Actions), REST APIs
Network BGP, OSPF, TCP/IP, OSI protocols, Distributed systems, ML inference

Experience

Apr 2025 – Present **Undergraduate Researcher**, *UofT Engineering*, Toronto, ON.
- Engineered a full-stack academic contest platform for UofT Engineering, supporting thousands of concurrent users with real-time leaderboard synchronization.
- Built a high-concurrency backend to support real-time leaderboard updates and multi-session academic contests, integrating with React/Express pipelines.
- Designed multi-role session management and secure authentication workflows, connecting SQL-backed access controls to custom RESTful API endpoints.

Jul 2024 – Dec 2024 **Undergraduate Researcher**, *Vector Institute*, Toronto, ON.
- Optimized ML inference pipelines using CUDA and distributed computing, achieving 3x throughput improvement for large-scale deployments.
- Developed network-aware scheduling algorithms for distributed ML training, minimizing communication overhead across cluster nodes.

Jan 2024 – Jun 2024 **Network Systems Researcher**, *Systems Group, UofT*, Toronto, ON.
- Designed and implemented BGP route optimization algorithms for multi-homed network infrastructures, reducing latency by 25%.
- Built network monitoring and capacity forecasting systems using Python and Linux network tools, enabling proactive scaling across distributed nodes.

Sep 2023 – Dec 2023 **Software Engineer (Co-op)**, *RBC Capital Markets*, Montreal, QC.
- Designed distributed ETL pipelines for financial transaction data, improving processing throughput by 2x with parallel and batch optimization.
- Implemented network-level load balancing and failover mechanisms for mission-critical trading systems.

May 2019 – Aug 2020 **Software Engineer (Co-op)**, *IBM Canada*, Toronto, ON.
- Migrated 15k+ LOC Angular frontend from v6 to v8 with full backward compatibility and performance improvement.
- Built CI/CD pipelines with Kubernetes orchestration to automate deployments, reducing release cycle time by 30%.

Teaching Assistant

- **Teaching Assistant**, CSC369: Operating Systems, CSC343: Database Management Systems