Chris Wen
Software Engineer

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Software engineer with professional experience building production REST and gRPC+protobuf microservices using Kotlin, Web, iOS, and Android clients using Kotlin Multiplatform, and automated test pipelines. Skilled in backend microservices development, frontend mobile and web client development, and performance optimization using C++.

SKILLS

Languages:	C++, Python, Kotlin, C
Backend:	REST API, gRPC + protobuf, SQL, AWS, S3, DynamoDB, Apache Kafka
Frontend:	HTML, CSS, React, React Native, Android, iOS
Testing / Infra:	Selenium, Unit and Integration Testing, Git, Jira, Docker, CI/CD pipelines

TECHNICAL EXPERIENCE

Junior Software Engineer (Internship/Co-op) - Kotlin   **Sep 2022 — Apr 2023**
Trulioo   *Vancouver, BC*

- Researched and proposed an event-driven architecture using Apache Kafka, scaling maximum throughput from 10K to 30–40K messages/sec to better handle peak traffic while also improving fault tolerance and crash recovery via event persistence.
- Designed and implemented REST API endpoints and a gRPC + protobuf prototype for secure image storage and retrieval.
- Built a JWT-based authorization layer to meet security requirements for image access control in staging and production.
- Implemented a cross-platform user data entry flow (Web, iOS, Android) using the MVC architecture, diagnosed crashes, and resolved bugs.

Junior QA Engineer (Internship/Co-op) - C#, React, TypeScript   **Sep 2021 — Apr 2022**
Trulioo   *Vancouver, BC*

- Automated functional and regression tests using C# and Selenium, reducing manual QA time by up to 30%.
- Developed an internal tool (React frontend, TypeScript backend) to automate test data generation, cutting environment setup time from 2 hours to 10 minutes.
- Collaborated with dev and QA teams to design new automated tests, achieving 100% coverage on major new features.

PROJECTS

Augmented Reality (AR) Transcription Glasses (Capstone - Team of 5) - C++   **Jan 2025 - Aug 2025**

- Designed and prototyped wearable AR glasses capable of real-time transcription using a custom optical display system, 3 omnidirectional microphones, and on-device AI as a team.
- Led the signal processing and R&D sub-teams (2 developers each) to find viable noise suppression algorithms and a lightweight C++ AI transcription model capable of achieving over 90% accuracy on a Raspberry Pi 5.
- Implemented a 3-microphone delay-and sum beamformer using C++ to suppress background noise from lateral and rear sources, improving transcription accuracy by 25% under noisy conditions.
- Reduced end-to-end transcription latency from 30s to 2s by chunking audio and streaming audio data to the AI transcription model.
- Developed automated test pipelines to benchmark transcription accuracy and latency at varying (10dB - 50dB) noise levels.

FPGA Pong Game (Team of 2) - C++   **Aug 2025**

- Designed and implemented a real-time Pong game on the Digilent ZedBoard (Zynq-7000 ARM SoC) using VHDL hardware blocks and C++ game logic.
- Implemented a dual-core system: One core handles game logic, VGA output, and menus and the other core generates audio based on shared-memory signaling.
- Designed and developed two custom VHDL modules: Hardware rendered paddles and ball for 60 FPS gameplay, and a 32-bit LFSR pseudo-random number generator used for AI opponent difficulty.
- Integrated software and hardware subsystems via AXI Lite interconnect, enabling low-latency communication between software game logic and hardware VGA rendering.

Personal Website

- Created a personal website using Astro and GitHub Pages showcasing education, experience and contact methods.
- Automated a CI/CD pipeline by configuring GitHub Actions using a .yml file to build with npm and publish to GitHub Pages.
- Added an interactive contact section - email, Cal.com scheduling integration with live availability, and LinkedIn.
- Managed client-side scripts for theme sync and local time display.

EDUCATION

Bachelor of Applied Science (BASc), Computer Engineering   **Sep 2020 — Oct 2025**
Simon Fraser University   *Burnaby, BC*