

Yiwen Gong

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EDUCATION

University of Waterloo

Honours Bachelor of Computer Science, Co-op

Waterloo, ON

Aug 2024 – Apr 2029

TECHNICAL SKILLS

Programming: C, C++, C#, Python, Java, Kotlin, JavaScript | **Frameworks:** Vue.js, Jetpack Compose, Ktor

Tools & Technologies: Git, Azure DevOps, SQL, REST APIs, Linux, HTML, CSS

Languages: Mandarin (Native), Japanese (JLPT N1), English

EXPERIENCE

Software Engineer

Apr 2025 – Dec 2025

BASF

Nanjing, CN

- Developed and enhanced an automotive manufacturing process monitoring platform for **100+ factories**
- Implemented **30+** features with **Java**, **Vue.js**, and **SQL** across backend, frontend, and database
- Validated **600+** bugs and **100+** user stories across **20+ agile sprints**, using **Azure DevOps** to track issues, manage user stories, and verify fixes through QA processes.
- Supported **20K+** platform users by troubleshooting production issues, resolving configuration problems, and providing documentation for platform adoption.

Undergraduate Researcher

Sep 2026 – Dec 2026

University of Waterloo

Waterloo, ON

- Researching multilingual and code-switched clinical conversations to improve an **AI Scribe system** integrating automatic **speech recognition** for clinical transcription and generative AI for SOAP note generation.
- Fine-tuning and comparing speech recognition models on collected clinical conversational data, evaluating performance using **WER**, **DER**, and **medical WER (MWER)**.
- Working toward clinician validation and a potential journal publication or contribution to **Interspeech 2027**.

PROJECTS

Folium | Kotlin, Jetpack Compose, Ktor, Supabase

Sep 2026 – Present

- Developing a book discovery and tracking application in **Kotlin**, enabling users to search for books and organize personal collections through a responsive **Jetpack Compose** interface.
- Planning to integrate third-party book APIs through **Ktor** to asynchronously retrieve book metadata, including titles, authors, ISBNs, descriptions, and cover images.
- Designing a **Supabase** backend to persist user bookshelves, reading progress, ratings, and other application data across sessions.

ChamberCrawler3000 | C++, OOP

May 2026 – Aug 2026

- Built a **multi-level** dungeon crawler game in **C++**, integrating player, enemy, and grid modules into a unified game board with movement, combat, and state management across multiple character types.
- Designed an extensible object architecture with high cohesion and low coupling, applying OOP principles and **Observer/Decorator design patterns** to support modular player-enemy interactions.
- Managed memory with C++ **RAII smart pointer** to enhance robustness and prevent memory leaks.

Catana - CxC AI Hackathon | Python, JavaScript, Pydantic

Feb 2026

- Developed CATANA, an **AI-powered** Catan strategy platform that analyzes live Colonist.io game states and recommends optimal settlement and road placements.
- Built a browser-to-Python data pipeline using **JavaScript**, **WebSocket/Socket.io** interception, JSON, and **Pydantic** to capture, standardize, and validate live board and player data.
- Implemented a hybrid decision engine using **heuristic scoring**, **BFS**, **Softmax-based opponent modeling**, probabilistic game-tree simulation, and **OpenAI/Claude/Gemini APIs** to maximize expected win probability.