

Brian Fu

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Education

University of Waterloo

Bachelor of Computer Science, Honours Co-op

Expected Graduation: May 2028

Waterloo, ON

- **Relevant Courses:** Object Oriented Programming, Data Structures, Algorithm Design, Tools for Software Development

Experience

Shopify

Software Engineer Intern

May 2026

Toronto, ON

- Summer 2026

WSIB Innovation Lab

Software Engineer Intern

Jan 2026 – Present

Waterloo, ON

- Built an **agentic RAG system** using **Python** and **LangChain** to automate the ingestion/synthesis of insurance documentation, reducing manual case review by **~78%**, projecting a **~\$1M** annual reduction in operational overhead
- Engineered a scalable data architecture for **5+** document types by decoupling **NoSQL** metadata from binary assets via **CosmosDB** and **Azure Blob Storage**, reducing data retrieval costs by **~40%**

UW Blueprint

Software Developer

Jan 2026 – Present

Waterloo, ON

- Engineered scalable **RESTful APIs** with **Python**, **FastAPI**, and **PostgreSQL** to manage delivery logistics for a furniture bank serving **6000+** clients, ensuring **99.9%** uptime during critical distribution windows
- Shipped a delivery route optimization using the **Google Maps API**, saving **25+** drivers **~20%** time and fuel costs

Workplace Safety Insurance Board

Software Engineer Intern

May 2025 – Aug 2025

Toronto, ON

- Shipped **4+** **Java RESTful APIs** to production for a microservice within a cloud migration project to **Azure**, implementing **MVC architecture**, **dependency injections**, and **layered services** to cut code redundancies by **~33%**
- Built a **Springboot** app to ingest mock insurance data to **Azure SQL**, eliminating **~12+ hrs/month** of manual queries
- Boosted app performance via parallel inserts and resume/patch paths for fault-tolerant loading of **100,000+** documents

Projects

Video Advertisement Generator | *Python, FastAPI, Next.js, PostgreSQL, AWS*



- Built an AI-powered ad-gen platform that enables businesses to create product marketing videos from images/prompts
- Engineered a video generation pipeline using **Google Veo**, **FastAPI** and **AWS S3** for video store with a **PostgreSQL** database, and **Meta's Graph API** for instant online posts, shortening marketing processes by up to **99%**
- Integrated **async I/O** in **FastAPI** to parallelize Google API requests, reducing video render time from **57s** to **15s**

NHL Athlete Identification Game | *Java, Springboot, Next.js, PostgreSQL, Redis, AWS*



- Created a "-dle" game using **Springboot**, **Next.js**, and **PostgreSQL** to let users guess NHL players off their silhouette
- Implemented a **Redis caching layer** for the official **NHL API**, optimizing the retrieval of **5,000+ real-time data points** and cutting external API requests by **50%**, enhancing overall system throughput and scalability

Competitive Programming PVP Platform | *Python, Flask, Next.js*



- Built a platform to support up to **10+ concurrent users** competing to solve Data Structures and Algorithm problems
- Built a **RESTful** backend with real-time code execution and state management for **<50ms** cross-player latency
- Created gameplay variety by web-scraping and categorizing **3,000+** LeetCode problems using the **Beautiful Soup** library

Skills

Languages: Java, Python, JavaScript / TypeScript, C++, SQL, HTML/CSS

Technologies: Springboot, FastAPI, Node.js, Next.js, React, PostgreSQL, NoSQL, Langchain, MCP

Tools: Git, Docker, AWS, Azure, GCP, Postman, Redis

Interests: Hockey (2x Ontario-wide tournament + 3x Mississauga Champion), Toronto Blue Jays / Maple Leafs, Golf