

BENSON YAN

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EDUCATION

University of Waterloo

Bachelor of Computer Science

Waterloo, Canada

2023 – 2027

- Courses: Reinforcement Learning, Object-Oriented Programming, Algorithms, Statistics, Combinatorics, Linear Algebra

EXPERIENCE

Advanced Building Innovation Company

Software Engineer Intern

Ottawa, Canada

Jan 2025 – Present

- Enabled **500+** monthly customers to purchase homes through a custom home building web application, featuring 3D home tours and automatically generated floorplans based on design combinations by mapping CAD objects to SVG format with **PostgreSQL**, **ASP.NET Core**, **Svelte**, and **Mapbox**
- Collaborated with architects and structural engineers to save **10+ hours** of export time per CAD project by automating **30+** manufacturing requirements for all housing models through a CAD plugin with **C#/.NET** and the **CADWorks API**
- Increased sales revenue up to **\$50,000** per home by implementing event sourcing architecture across **20+** endpoints to provide sales and marketing teams in-depth insights to customer preferences for each home development
- Customized an event-driven analytics platform using **Vercel Analytics** to log and process customer actions, delivering invaluable customer insights to consultants and data analysts

BrandeY.ai

Founding Engineer

Waterloo, Canada

Mar 2025 – Present

- Architected the core agentic and deep research backend service in **Express.js** and **LangGraph** to connect startups with content creators and generate real-time content creation timelines to increase social media and clientele outreach

Lovelytics & UTMIST

Machine Learning Engineer

Toronto, Canada

Sept 2024 – Present

- Engineered a distributed multi-agent system leveraging **Python** and **LangChain** to overcome the output limitations of traditional LLMs and automate the generation of long-form business reports of **5000+** words
- Implemented a Retrieval Augmented Generation (**RAG**) pipeline utilizing **FAISS vector store** and **OpenAI Embeddings** to improve the accuracy of business reports and factual accuracy by **30%**
- Integrated a deep research web search agent with **Firecrawl** and **o3-mini** to significantly boost report content credibility

Cornerstone Realty Marketing

Summer Analyst Intern

Toronto, Canada

May 2024 – Aug 2024

- Streamlined an existing data analyzing workflow by creating a dashboard that analyzes key performance indicators across **147** Toronto Neighbourhoods with **Python**, **Streamlit**, **Plotly**, and **Matplotlib**, saving business analysts **multiple days** per project and eliminating all data entry errors
- Increased rental income potential by **10%** by designing demographic models, which optimized unit layouts and amenity choices, providing consultants further insights to perform competitive analyses of the rental market
- Delivered data-driven insights on condominium markets with **5+** comprehensive case studies, guiding investment decisions that maximized rental revenues and tenant satisfaction

PROJECTS

Rizz Glasses (70,000+ impressions) | Python, Flutter, FastAPI, LangGraph, LLM, Supabase

Feb 2025

- Developed an AI conversational assistant for the Meta Ray-Bans by implementing a real-time agentic flow with **face recognition**, **voice diarization**, and **speech to text** capabilities in **LangGraph** by leveraging Open AI's **Whisper-V3** and Meta's **Llama-3.3-70b** models
- Deployed the agentic model as a back-end service using **FastAPI**, providing **REST API's** to the **Flutter** app interface

Veyesor | Python, OpenCV, Socket.io, WebRTC, Flask, React

Jan 2025

- Awarded 'Most Forward-Thinking Project' among **500+** participants at McHacks 12 (McGill University), securing a **\$500** prize for innovative use of **VR** and computer vision to enhance driver safety
- Developed a live panoramic video stitching application using **OpenCV** homography mappings and Gaussian blending to merge multiple iPhone camera feeds via **WebRTC** to create a 180-degree, unobstructed view of a vehicle's surroundings

TECHNICAL SKILLS

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

Frameworks & Tools: ASP.NET Core, Fast API, Svelte, PostgreSQL, MongoDB, Linux, Docker, Terraform, Kubernetes, Azure

Libraries: React, Express.js, NumPy, pandas, LangGraph, LangSmith, Drizzle ORM