# Owen Hochwald

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## Objective

CS Co-op student with production software engineering experience across 3+ internships seeking a software engineering role at an innovative, forward-thinking company.

## Technical Skills

**Languages**: Python, Java, TypeScript, Go, C++, Kotlin, SQL, HTML & CSS, Hack & PHP
**Frameworks & APIs**: React, Node.js, Express.js, FastAPI, Spring Boot, REST APIs, GraphQL
**Cloud & Infrastructure**: AWS (S3, EC2, Lambda), Docker, Kubernetes, Nginx, Terraform
**Databases & Messaging**: PostgreSQL, MongoDB, Redis, RabbitMQ, MySQL, Kafka
**DevOps & Monitoring**: CI/CD (GitHub Actions, Gitlab CI), Prometheus, Git, System Design
**Data & ML**: NumPy, Pandas, PyTorch, Scikit-learn, Matplotlib, Seaborn

## Technical Experience

**Software Engineer Intern** June 2025 – August 2025
*Stealth Startup* *US Remote*

- **Built end-to-end Chrome extension for bias detection in online content**, helping users make informed decisions with **Kotlin Spring REST APIs** and **OpenAI-compatible ML service**, collaborating with 3 senior engineers and consistently delivering **above 75th percentile** for code contributions.
- Designed and deployed **bias-classification pipeline** benchmarking multiple LLMs, achieving **85% classification accuracy** with **TDD principles** and comprehensive test coverage.
- **Containerized full application stack** (frontend, backend, API, MariaDB) using **Docker** with **Nginx** reverse proxy architecture for secure traffic routing and load balancing.
- Built **custom CI/CD pipeline** with one-line deployment script and **Prometheus monitoring infrastructure**, enabling rapid iteration and full environment provisioning from scratch.

**Coding Team Full Stack Intern** April 2025 – Present
*UBC Visual Cognition Lab* *Vancouver, Canada*

- Integrated an internal **RAG pipeline chatbot** into a research platform to reduce onboarding times for **30+ researchers**.
- Used Figma mockups to implement frontend functionality to automate application submissions and bug reporting with **React, and Redux**, integrating with an **Express + MongoDB** backend.
- Delivered **presentations** on technical progress and improvements **to non-technical audiences** and **co-led feature planning meetings** to prioritize and scope new functionality.

**Backend Machine Learning Engineer Intern** June 2023 – Aug 2023
*Insomniac Design, Inc.* *Washington, D.C.*

- Built **FastAPI microservice** integrating a **fine-tuned Lbl2Vec model** for unsupervised document classification and document retrieval to automate customer sentiment classification for NZDPU climate data repository, benchmarked on Reddit & Twitter dataset, achieving 89% accuracy.
- Documented **SDLC**, **internal CI/CD workflows** and standardized **GitFlow** branching strategy, reducing deployment errors and **accelerating release cycles**.

## Personal Projects - Portfolio Site

**RecMind : Real-Time Recommendation System** | *Go, Python, React, GCP* May 2025 - Aug 2025

- Developed a distributed knowledge base system for intelligent content discovery, enabling users to build private semantic search repositories from unstructured articles & query for contextually relevant information in real-time.
- Built a distributed, event-driven backend with **Go + RabbitMQ** and a **Python FastAPI ML microservice**, enabling real-time recommendations and embedding generation via **LangChain** integration.
- Implemented high-performance semantic search combining **OpenAI embeddings** and **Pinecone** vector database, achieving sub-500ms end-to-end response times with **Redis** caching layer and **PostgreSQL** metadata storage.
- Deployed containerized microservices on **AWS** using **Docker**, implementing **Prometheus** monitoring for performance metrics and observability, with **React** frontend dashboard for interactive article management and search visualization.

**AdmitifyAI : College Admissions Matchmaking** | *Next.js, OAuth, Supabase* Jan 2025 - April 2025

- Launched **full-stack SaaS platform** with **LLM-driven recommendation** engines for personalized college admission strategy and recommendations at a low cost, attracting **300+ active users** within the first month.
- Project managed a **5-person development team**, leading the Scrum-style issue tracking system, system architecture, code repo setup, sync-ups, product design, and planning future features to enable smooth project execution.
- Led **DevOps workflows**, including deployments, service integration, and DNS configuration, automating deployments and improving infrastructure reliability.

**Student Connect [nwHacks 2025]** | *Next.js, TypeScript, Firebase, WebRTC* Jan 2025

- Led a team of 4 developers in a 24-hour hackathon to build a specialized video chat platform for university students, creating an Omegle-style experience tailored for safe academic networking and peer connections.
- Integrated **WebRTC** for peer-to-peer video communication with a queue-based matchmaking algorithm, enabling low-latency connections between students.
- Architected **Firebase backend** with **Google OAuth** authentication and user management system.

**Shakespeare GPT : Generative Language Model** | *Python, PyTorch, Numpy* June 2024 - July 2024

- Developed a small **GPT-style transformer model** with character-level tokenization trained on Shakespeare's corpus, achieving **4x loss reduction** over a bi-gram baseline.
- Implemented and tuned **embedding layers, attention mechanisms, and loss functions** to improve sequence modeling, resulting in more contextually accurate text generation.

## Academic Projects

**Interactive Westeros Map GUI** | *Java, Swing, JUnit* Jan 2025 - Mar 2025

- Designed interactive desktop application for Game of Thrones fans featuring customizable location creation, progress tracking, and navigation, developed from **UML diagrams**.
- Implemented **object-oriented design patterns** including Singleton, Observer, and Iterator with comprehensive **class hierarchy** using abstract classes and interfaces.
- Built a persistent data storage system with **JSON serialization** and multiple save slot functionality, enabling users to create, customize, and preserve unique world configurations with dynamic city placement features.
- Applied **Test-Driven Development** methodology using **JUnit** framework, achieving **97% code coverage** through comprehensive unit testing that ensured application reliability and maintainability.

## Education

**University of British Columbia** Vancouver, BC

*BSc in Computer Science* | GPA 4.33/4.33 ***UBC Dean's Scholar,*** *Expected May 2027*

*- Trek Excellence Scholarship, Music Boosters Association Scholarship*

## Interests

Classical Music (Clarinet, High School National-Level Performance), Piano, Basketball, Calisthenics