Eddie Yang

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EDUCATION

University of British Columbia **2024–2029 (Expected)**
BSc, Computer Science, Option in AI – 4.0/4.33 (85.2%) GPA | Dean's Scholar (1x), Dean's List (2x)
Relevant Coursework: Machine Learning, Deep Learning, Algorithms, Software Engineering, Databases, Linear Algebra

TECHNICAL SKILLS

Languages | Python, Java, SQL, JavaScript, TypeScript, HTML/CSS, C/C++
Frameworks & Libraries | PyTorch, LangGraph, scikit-learn, Matplotlib, NumPy, pandas, FastAPI, Spring Boot, React, Streamlit
Databases | PostgreSQL, pgvector, MySQL, Supabase
Tools & APIs | Git, Docker, Linux, REST APIs, LLM APIs (Claude, OpenAI, Gemini), Docling

PROJECTS

CFPB Complaint Triage — Multi-Agent RAG System | **Python, LangGraph, Claude, pgvector** **10/2026–11/2026**
- Built a multi-agent RAG system that drafts cited, compliance-safe replies to consumer finance complaints from 5,163 real CFPB complaints and federal Regulations E, F and Z.
- Designed two LangGraph workflows, a complaint-reply pipeline with human approval and a supervisor-routed analyst agent, with step caps, loop detection and escalation to a person.
- Layered hallucination controls (per-claim citations, deterministic checks, an LLM fact-checker) for a 1.0 mean supported-claim ratio; raised eval pass rate from 61% to 93% (28 scenarios × 3 runs), matched on a 23-case held-out set.
- Kept cost to about $0.05 per complaint by routing classification to a small model, and showed lean context beat a larger one: 2.2× cheaper with fewer unsupported claims.

Zoned — Citation-grounded Document Q&A RAG system | **Python, PostgreSQL, pgvector, Docker** **07/2026–Present**
- Built a RAG pipeline that ingests PDFs with Docling, embeds via the OpenAI API, and answers only from the source documents via the Claude API, citing document and page or explicitly refusing when the corpus lacks the answer.
- Evaluated on a 33-question set: 23/23 document-level recall, 19/23 top-1 attribution, 10/10 correct refusals and zero fabricated answers, tracing every ranking failure to nearly identical document pairs.
- Designed a single PostgreSQL + pgvector schema (documents, chunks, and 1536-dim embeddings), with retrieval written as raw SQL over psycopg 3, an HNSW cosine index, a generated tsvector column, and Alembic migrations.

ML Experiments — Self-Directed Deep Learning Research | **Python, PyTorch, torchvision** **10/2026–Present**
- Extended a course assignment into a comparison of two ways to adapt an ImageNet-pretrained ResNet-18 to 10 PASCAL superclasses: averaging subclass head weights vs. summing subclass softmax probabilities.
- Probability summing won zero-shot (95.6% vs. 92.4%) and after head-only fine-tuning (96.9% vs. 95.3%) on all 3 seeds; adding an "others" class for the 774 unmapped ImageNet classes reversed the result (88.9% vs. 95.3%).

Momentum — Task Planner with NL Task Parsing | **Java, Spring Boot, React, MySQL, Docker** **04/2026–09/2026**
- Built and deployed a full-stack task planner with a Spring Boot REST backend and a React frontend, letting users create, edit, categorize, and track tasks by deadline; live on Railway behind a Docker build.
- Added natural-language task entry with the Claude API: a forced tool schema for validated output, a confirmation step before any database write, and a fallback to raw input if the API is unavailable.

ReLeaf — Hack the Coast 1st Place & Best Use of Gemini API | **Python, FastAPI, NumPy, Rasterio, React** **02/2026**
- Built a 3D urban-heat planner that maps Vancouver surface temperatures and projects cooling, CO_2 offset and ROI for placed trees, cool roofs and bio-swales.
- Wrote a FastAPI + Rasterio backend for per-pixel temperature lookups and hotspot ranking, and used Gemini to render interventions into real Street View images and draft FEMA grant narratives.

EXPERIENCE

Vice President of Internals **01/2026–Present**
UBC Badminton Club Vancouver, BC
- Create and design visuals for communication of events, notices, and schedules for a club with over 200 members.
- Plan and host monthly events, coordinating executives, collaborations, and sponsors.

General Merchandise Associate **05/2025–07/2025**
Walmart
- Handled stocking, inventory, and till in a high-volume store, coordinating with coworkers during peak hours.

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