

Abhi Verma

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EDUCATION

University of British Columbia

Bachelor of Applied Science - Computer Engineering

Vancouver, BC

Expected Graduation: May 2026

- **Courses:** Algorithms and Data Structures, Software Construction, Applied Machine Learning, Technical Communication
- **Awards:** Dean's List (2022-2024) – GPA above **80%**; Trek Excellence Scholarship (2022-2023) – Top **5%** of Engineering

EXPERIENCE

UBC x AWS Cloud Innovation Centre

Software Developer Co-op

Vancouver, BC

May 2024 – Present

- Developed a web application with **NLP** that answers researcher queries about quantum matter materials to foster collaboration and improve access to information using **AWS CDK** for infrastructure as code, reducing provisioning time by **30%**
- Enabled multi-tenant **Retrieval-Augmented Generation** by utilizing **PGVector** for efficient storage and querying of embedding vectors, achieving **25%** faster **LLM (Llama 3 70B)** response times through **LangChain**
- Integrated a **RESTful API** that can handle up to **10,000** requests per second with **AWS API Gateway**, **Lambda** functions, and secure authentication via **AWS Cognito**, facilitating efficient material uploads of any file type to **RAG** pipelines
- Collaborated with a diverse group of stakeholders, presenting technical solutions and documenting each phase to ensure smooth deployment, including cost analyses to identify and implement strategies to minimize expenses

UBC Launch Pad

Software Developer

Vancouver, BC

January 2023 – April 2024

- Utilized **AWS S3** and **Svelte** to implement a web application used by over **500** members for efficient document management, enhancing accessibility, organization, and security of Launch Pad's resources
- Incorporated an intermediary **PlanetScale SQL** database to store document metadata allowing for the ability to query, search, and filter sensitive information, improving data retrieval speeds by **40%**
- Gained proficiency in **Flutter** to construct mobile health application designed to aid individuals with epilepsy, providing a deep understanding of the **software development lifecycle** and working with customer specifications

PROJECTS

Faculty CV | AWS, Docker, React, PostgreSQL, LaTeX

[GitHub](#) 🔗

- Engineered an **AWS** and **React**-powered platform for the UBC Faculty of Medicine to streamline CV creation, enhancing operational efficiency across **19** departments, **3** schools, and **25** research centers
- Integrated external data sources and datasets by developing robust **ETL** pipelines that fetch, clean, and store raw data from CSV files uploaded to **S3** buckets and **Open Patent Services API** into an **RDS PostgreSQL** database
- Automated CV generation using **Lambda** functions hosted in a **Docker** container to convert **LaTeX** to PDF

Spotify VibeCrafter | Flask, Spotify API, HTML, CSS, JavaScript

[GitHub](#) 🔗

- Constructed a music exploration and playlist management web application using **Flask**, **Spotify API**, and a responsive front-end with **HTML**, **CSS**, and **JavaScript**, enhancing user engagement through interactive features
- Used advanced filtering to create mood-based playlists by analyzing Spotify's audio metrics and comparing them against datasets containing over **1000** songs, improving personalized music recommendations by approximately **15%**

ReelViews | TMDb API, Express.js, MongoDB, HTML, CSS, JavaScript

[GitHub](#) 🔗

- Built a full-stack web application with a responsive frontend using **HTML**, **CSS**, and **JavaScript**, allowing users to view the latest movie releases, search for any movie from **The Movie Database API**, and post reviews
- Implemented server-side caching and indexing in **MongoDB** to maintain an average response time under **300ms**

SKILLS AND CERTIFICATIONS

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

Frameworks and Libraries: React, Pandas, NumPy, Jest, Flask, JUnit, Svelte, Flutter, Node.js, Express.js

Software Tools: AWS, Docker, Linux/Unix, MongoDB, PlanetScale, Git, Microsoft Office

Certifications: AWS Certified Solutions Architect Associate, LinkedIn Learning: The Cybersecurity Threat Landscape



THE UNIVERSITY OF BRITISH COLUMBIA

Co-op Program
Faculty of Applied Science

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