

# Abhi Verma

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## EDUCATION

University of British Columbia

Expected Graduation: May 2026

Bachelor of Applied Science - Computer Engineering

- Trek Excellence Scholarship – Awarded for being in top 5% of Engineering faculty

## EXPERIENCE

UBC x AWS Cloud Innovation Centre

Vancouver, BC

Software Developer Co-op

May 2024 – Present

- Developed a web application using **AWS CDK** in **TypeScript** for infrastructure as code that leverages the **Llama 3 70B LLM** model to simplify access to the Stewart Blusson Quantum Matter Institute's research in quantum matter
- Enabled multi-tenant **Retrieval-Augmented Generation** by utilizing **PGVector** for efficient storage and querying of embedding vectors, achieving **25%** faster **LLM** response times using **LangChain**
- Developed a **RESTful API** for data management with **AWS API Gateway**, **Lambda** functions, and secure authentication via **AWS Cognito**, facilitating efficient material uploads 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

Vancouver, BC

Software Developer

January 2023 – Present

- Utilized **AWS S3** and **Svelte** to implement a web application used 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%**
- Created responsive and visually engaging interfaces for web and mobile applications with **React**, **Material UI** and **Tailwind CSS**, enhancing user interaction

## 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 APIs 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 app using Flask, Spotify API, and a responsive front-end with HTML, CSS, and JavaScript, enhancing user engagement through interactive features
- Implemented advanced filtering to create mood-based playlists by analyzing Spotify's audio metrics and comparing them against datasets with hundreds of songs, enabling personalized music recommendations

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, and post reviews
- Utilized The Movie Database API alongside backend functionality implemented with Express.js and MongoDB, enabling efficient data handling and dynamic user interactions

EpiLog | Flutter, Figma

GitHub [↗](#)

- Gained proficiency in Flutter to construct mobile health application designed to aid individuals with epilepsy using Figma, providing a deep understanding of the software development lifecycle and working with customer specifications

## TECHNICAL SKILLS

**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