

Abhi Verma

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EDUCATION

University of British Columbia

Expected Graduation: May 2026

Bachelor of Applied Science - Computer Engineering

- AWS Certified Solutions Architect - Associate Certification
- 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 to answer user queries about quantum matter research to foster collaboration and improve access to information using **AWS CDK** in **TypeScript** for infrastructure as code
- 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 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 – April 2024

- 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%**
- 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 **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 application 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

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

