# Harsh Amin

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## EDUCATION

**University of British Columbia**                                                                April 2027
*BSc Co-op Computer Science · Math*                                                        *Vancouver, BC*
*GPA: 89%*

**Relevant Courses:** Data Structures and Algorithms, Software Engineering, Discrete Mathematics,
Computer/Operating Systems, Machine Learning, Web Development
**Awards**: Trek Academic Excellence Scholarship - awarded to top 5% of faculty
**Extracurricular**: UBC Launch Pad Design Team, Intramural Basketball, Weight Lifting Club, Entrepreneurship Club

## TECHNICAL SKILLS AND AWARDS

**Languages**: Java, Python, C/C++, Racket, R, HTML/CSS, JavaScript, TypeScript, SQL
**Frameworks and Libraries**: React, Flask, FastAPI, Node.js, Express.js, PyGame, Java Swing, Tidyverse, JUnit
**Developer Tools**: AWS, REST APIs, PostgreSQL, Postman, Git, VS Code, PyCharm, IntelliJ, JupyterLab

## EXPERIENCE

**Software Developer**                                                                      Sep 2024 – Present
*UBC Launchpad - Project: Forum (LLM based student question board for UBC classes)*        *Vancouver, BC*
- Designed the **Retrieval Augmented Generation** model and implemented the **Chunking engine, Embedding model (Vectorization), and Retrieval system** for PDF documents
- Developed and tested **FastAPI** endpoints for course and document tagging, while implementing restricted access through auth for user validation
- Used **Python** to create automation scripts using the **Selenium WebDriver** to automate user login through the UBC portal and scrape course data
- Incorporated a **PostgreSQL** database through the use of **Supabase** and developed migration scripts in python and designed organizational structure for project SQL queries

**Computer Science TA**                                                                     Jan 2023 – Jun 2023
*Henry Wise Wood High School*                                                                  *Calgary, AB*
- Responsible for the marking and submissions of all student assignments, created test cases using **JUnit**
- Created assignments and presentation lessons on **Object Oriented Programming** and **Linked Lists** principles which I used to convey the principles in a more comprehensible manner

## TECHNICAL PROJECTS

**Harsh Reviews** | *PostgreSQL, Express.js, React, Node.js, REST API, git*                 Jun 2024 – Aug 2024
- Developed a full-stack restaurant reviews web application, implementing a responsive **React** front end
- Used **PostgreSQL** to store restaurant data and developed a **REST API** performing various CRUD operations through the use of **SQL queries** which are prevented against injections using parameterized queries
- Made multiple API calls through the use of **Axios** and used environment variables to ensure secure use of database credentials and API keys

**AWS Emotion Playlist Generator** | *AWS S3, API Gateway, Lambda, Rekognition, React*   May 2024 – Aug 2024
- Developed an application which analyzes user emotion and develops Spotify playlists based on their emotion
- Took advantage of **AWS S3** to store the user image and used Lambda functions to make an API call to **AWS Rekognition** to detect user emotion
- The app implements a **WebSocket API** using **AWS API Gateway** to allow for 2-way communication with the **React** frontend, Lambda function makes a call to the Spotify API and sends the relevant info to the frontend
- Monitored API and Lambda status through **AWS CloudWatch** and progression during development

**Heart Disease Detection Model** | *R, TidyVerse, Jupyter, Git, KNN, MySQL*               Oct 2023 – Nov 2023
- Used a reputable **MySQL** data set and implemented **Tidy data principles** to develop a predictive model using the **KNN** algorithm with 5 fold cross-validation
- Took advantage of the **Data Prepping and Data Visualization** properties in R programming to clean the data and diagnose patients with heart disease with a **73% accuracy** within a group collaborative environment