

# RAMAN PREET SINGH SEHMBI

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5920-139 Street, Surrey, British Columbia

## TECHNICAL STRENGTHS

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- **Programming Languages:** C/C++, Java, HTML, and MATLAB
- **Familiar With:** Swift, Python, Javascript

## Software & Tools

- **Development Tools:** Visual Studio Code, Android Studio, Xcode, IntelliJ, Wireshark, Git, Vim
- **Platforms:** Windows, Linux, Mac OS
- **Version Control:** Github, Gitlab
- **Word Processing Tools:** Microsoft Word, Powerpoint
- **Databases:** Firebase

## PERSONAL PROJECT

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### VacationBC

*Android Developer*

Surrey, BC

(Nov 2018 - Present)

**Development Process:** Android application that allows users to chat with other users with similar interests and share insightful experiences and important information such as fares, location, and official website of the destination. Users are able to purchase tickets with a single click.

#### Technical Features:

- Independently developed an Android application that provides users with unique travel destinations in British Columbia.
- Users are able to chat and view profiles of other members as the front-end of the application is connected to a real-time NoSQL Firebase database.
- Project allowed to enhance the understanding of user-interface. Users are intuitively able to accept/decide friend requests before initiating conversations.
- Multiple integrations of external library files allowed experience in managing dependencies in an application.
- Integrated the GPS features to allow users to find current location.

## ACADEMIC TECHNICAL PROJECTS

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### Green Food Challenge

*Android Developer*

Burnaby, BC

*Calculation based app to reduce the carbon footprint in Metro-Vancouver*

### CMPT276

(Sept 2018 - Nov 2018)

Developed an open-source Android application following agile and scrum team methodologies in 2 week sprints with multiple developers to deliver a successful application to reduce Carbon footprint in environment.

#### Technical Features:

- Provided an Android-based user interface for easy navigation and provide intuitive set of features for users
- Utilized a NoSQL Firebase real-time database for storing the user-information. Storage service called Firestore was used to store images of users.
- Increased testing coverage using JUnit and performed user-testing with first-year Computer Science students to get hands-on feedback in order to provide a more robust application.
- Followed the Clean Code Checklist to program with readable code and conform to the Google Java Coding Style.
- Most of the code is contained in modular classes outside of the main file, in order to be unit tested.
- Wrote a Comma Separated Values (CSV) file to store the diet proportion of the user in absence of database to fulfill the project requirements.

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## ACADEMIC TECHNICAL PROJECTS

### Wireshark Reports

#### CMPT 371

Vancouver, BC

(Sept 2018 - Nov 2018)

- **Dynamic Host Configuration Protocol**

Prepared a report on DHCP to analyze various fields such as Subnet mask, IP address of server and client, source and destination port numbers, link-layer addresses, and lease-time with commands such as '*ipconfig /release*', '*ipconfig/renew*' in command prompt window.

- **Domain Name System**

Obtained the IP address of Web Server in Asia using '*nslookup*' and determined the authoritative DNS servers for a university in Europe in addition to location of DNS query and response messages for the report.

### Data Structures and Algorithms in C++

#### CMPT 225

Surrey, BC

(Aug 2017- Dec 2017)

- **Stack**

Implemented OS independent functional stack to insert, remove and access data from a data structure.

- **Deque**

Deployed a deque data structure using doubly linked list data structure to extend the operation of both the stack (insert at the front and remove at the front) and the queue (insert at the back and remove from the front).

- **Priority Queues**

Understood the difference between Big-Oh(O) run time complexity of data structures and employed priority queues using arrays based on maximum heaps to store data of any type.

- **Barometer Operation**

Counted the number of barometer operation in Insertion Sort, Quick Sort, Merge Sort and placed the variable at appropriate position to count the comparisons on large inputs of the order  $10^k$ .

- **HashTable**

Implemented a hash table class to store Word Frequency objects that consist of string, integer pairs to record the frequency of words in text document. The hash table inherits the method of self increasing and collisions were handled by using quadratic probing.

## NON-TECHNICAL EXPERIENCE

### Home Depot

*Customer Service Representative*

White Rock, BC

(Mar 2018 - Present)

- **Communication:** Built immediate rapport with clients through friendly and engaging attitude.
- **Multi-tasking:** Responded to communicator while working on desired task and responded to customer calls positively to provide help.
- **Machine-Operations:** Operated all the machinery at work for best customer service and got licensed for multiple-lift operators.

## EDUCATION

### Simon Fraser University: Bachelors of Science in Computing Science

Burnaby, BC

(Sep 2017 - May 2021)

### Fraser International College: UTP Stage 2 Computer Science

Burnaby, BC

(Sep 2016 - Oct 2017)

## TRANSFERABLE SKILLS

- Technical Report Writing.
- Organizing and Interpersonal skills
- Motivated Team Player
- Leadership and Multi-tasking skills
- High level of integrity and confidentiality skills
- Problem solving skills developed from school projects

## INTERESTS

- **Sports:** Basketball and Volleyball as means for refreshing and to maintain body physique.
- **Hiking:** Engaged with SFU hiking club as a means to fitness.