Rajan Sapkota

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Technical Skills

Languages: C++, C, Python, Java, JavaScript, R, HTML/CSS, Racket, ARM Assembly, SQL
Tools/Environment: Excel, Unix/Linux, Git/GitHub, VS Code, IntelliJ, RStudio, Jupyter Notebook, Node.js
Frameworks/Libraries: React, JUnit5, Unittest, Valgrind, Java Swing, Matplotlib, ChartJS, Vite

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Technical Projects

Strength Tracker | React, NodeJS, CSS, Data Visualization   *May 2023*
- **Abstracted software logic** whilst reducing **prop drilling** through utilization of React's **built-in and custom hooks**
- Enhanced **UX** by allowing visualisation of user's strength progress by transforming user's data points into a line graph
- Elevated utility by dynamically including exercise information such as muscles worked via an **API GET request** to a database

Hexagon Maze | C++, Path Finding Algorithms, Debugging   *Mar 2023*
- Constructed a HexBoard composed of hexagon tiles in C++ through knowledge of **hexagonal geometry**, **OOP**, and **memory management**
- Debugged memory bugs through Linux native debugging program **Valgrind** to check for memory leaks and dangling pointers
- Optimized Hexagon maze solutions using a modified **Dijkstra's** algorithm on an equally weighted graph

WizardsVsZombies Game | Java, Java Swing, JUnit 5   *Oct - Dec 2022*
- Reduced **coupling** and increased **cohesion** via utilization of **UML diagrams, inheritance** and design patterns such as **Singleton, Observer and Iterator**
- Implemented 6 user-stories through the **agile scrum development methodology** consisting of 5 two-week sprints
- Ensured test-driven development by deploying **unit and integration testing** across all methods and modules using **JUnit 5**

Music Data Visualizer | Python, Data Visualization, Matplotlib, Unittest   *Dec 2021*
- Successfully plotted how average popularity of songs given proposed tempos changed throughout time via exploitation of **sorting** and **filtration algorithms**
- Effectively **parsed CSV file** with 8,000+ data points into mutable list of song objects, accounting for null field values
- Applied **unit and integration testing** across visualizer functionalities within various cases via testing framework **Unittest**

Education & Achievement

University of British Columbia   *Sept 2021 - Present*
Bachelors of Computer Science and Business
Key Courses: Computations, Programs, and Programming (99%), Introduction to Computer Systems (96%)
Awards: International Entrance Scholarship ($80,000), Outstanding International Student Award ($20,000)

Other Experiences

President/Founder, *AMS Volleyball Club at UBC | Vancouver, Canada*   *Dec 2021 - Present*
- Established a **structured organization** by recruiting prospective internal members and discussing organizational logistics
- Garnered **150+ paid members** within one year of operation by utilizing promotional resources, social media and networks
- Hosted paid and unpaid events for **100+ members/non-members** by collaborating with internal and external stakeholders

Digital Brand Marketing Intern, *Coca Cola Company | Manila, Philippines*   *July - Sept 2022*
- Increased customer engagement of Coke Studio influencers by **55%** by coordinating with various marketing professionals across different regions
- Achieved marketing objectives by creating a **timeline** and allocating responsibilities to various teams prior to Coke Studio concert
- Elevated intra-organization communication by **debriefing** marketing executives about the project via a slide-show presentation