



Rahul Kumar Sinha

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Education

University of British Columbia

Bachelor of Science, Major in Computer Science

- Dean's Honour Roll (2019 Winter Session)

Vancouver, BC

Sept 2019 – Present

Technical Skills

Languages: Java, Javascript, Python, HTML/CSS, C++/C#/C, Swift, LaTeX, PHP, R.

Developer Tools: Git, Ejs-electron, SQL, Visual Studio Code, Bootstrap, IntelliJ, Eclipse.

Frameworks: Node.js, Express.js, React.js.

Libraries: Socket.IO, JUnit, Puppeteer, Canvas, Cheerio.

TECHNICAL PROJECTS

Flappy Bird | *Python, Kivy*

May 2021

- Built a remake of the side-scroller mobile game Flappy Bird with **Python** and **Kivy** Framework; players tap to help Faby the bird avoid obstacles!
- Applied abstraction techniques and provided clear documentation to ensure flexibility and clarity

Real Time Chat App | *Javascript, Node.js, Heroku, Express.js.*

Apr 2021

- Developed a chat application utilizing **Javascript**, **Node.js**, **HTML/CSS** where clients can establish a group and talk with one another in **real-time**.
- Used **Express.js** as a server, and **Socket.io** to maintain a **bidirectional event-based** communication while implementing features like joined and left.

Algorithmic Block Art | *C++, Linux(Bash)*

Mar 2021

- Implemented lossy Image compression using shifty-quadtrees in **C++** to re-render images and create block art.
- Optimized efficiency of computing statistics by **pre-computing** and storing pixel hue information in 2D arrays.

Treasure Map Builder | *C++, Linux(Bash)*

Feb 2021

- Implemented a treasure map building algorithm in **C++** which takes a map image and turns it into a treasure map using **Breadth-First Search** to find variable routes and hide treasure at the end.
- Designed a decoder for the treasure map to reveal the secret location of the treasure.

Fantasy Football App | *Java, Swing, JSON, JUnit*

Sept 2020 – Dec 2020

- Developed a full-stack Fantasy Football app using **Java's object-oriented-programming concepts** and **Swing API** featuring a playable platform and panels to display ratings of a players and save/load game functionalit.
- Created and parsed **JSON** files to implement save/load capabilities.
- Achieved **100%** code coverage with **JUnit** to prevent future regressions while adhering **software-design principles** to optimize robustness.

Work Experience

Patna Hacks | *Organizer and Tutor* | *Patna, India*

May 2021 – Present

- Stimulated interest in Computer Science to high school students as an instructor and organized events that aim to develop skills in programming.
- Taught programming lessons in Javascript to the members of the club.
- Hosted a 24 hour virtual hackathon for members and non members of the club with prizes worth 100 dollars.

Shoppers Drug Mart | *Cashier and Sales Assistant* | *Vancouver, BC*

Aug 2020 - Dec 2020

- Helped customers complete purchases, locate items, and join reward programs to promote loyalty, satisfaction and sales numbers.
- Processed POS transactions, including checks, cash, and credit purchases or refunds.
- Restocked, arranged, and organized merchandise in front lanes to drive product sales.