UBC Science Co-op

DIVJOT VIRDI

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SKILLS AND STRENGTHS

Programming and Testing: Java, Python, C++, C, MATLAB, Dr. Racket, R, JUnit, GDB
Frameworks/Tools/Version Control: Java Swing, JavaFX, JSON, Git, GitHub, .NET Core*, React,* Jupyter Notebook, RATTLE, RNA-Bloom
Web and Databases: HTML, CSS, SQL, MySQL, JavaScript (ES6)*, Node.js*
Others: Data Structures and Algorithms, OOP, Data Visualization and Analysis, UX/UI Design, Memory Management, Bioinformatics Research, Machine Learning
Non-Technical Skills: Time Management, Communication, Teamwork, Problem-Solving, Painting, AutoCAD, 3-D Printing **currently acquiring*

WORK EXPERIENCE

Machine Learning/ Data Analysis Intern, *National Research Council of Canada* *September 2023 – December 2023*

- Conducted extensive research to explore and assess software relevant to the long-read transcriptome assembly of plant transcriptomes.
- Analyzed and interpreted a large multi-omics dataset to investigate canola genome regulation.
- Employed advanced transcript sequence assemblers such as RATTLE and RNA-Bloom for the assembly of long-read plant transcripts.
- Applied machine learning models and statistical analysis in Python and R to discern diverse plant gene expressions. Conducted PCA analysis and hierarchical clustering to discern underlying patterns within regulated genes.

Orientation Leader, *University of British Columbia* *August 2023 – September 2023*

- Collaborated with faculty members and fellow leaders to build a community for incoming first-year students.
- Acted as a UBC ambassador by welcoming and supporting 27 first-year students in building connections and finding resources for academic success.
- Provided peer support to my learning community group by actively engaging in group activities, university-wide events, social programs, and answering student questions.
- Facilitated regular group check-ins to enhance the student experience of my learning community.

PROJECTS

Chrome Extension – Cover Letter Editor *May 2023 – Present*

- Currently developing a Chrome Extension using JavaScript and React to simplify the process of editing cover letters for job applications.
- Successfully implemented a user-friendly interface allowing users to edit cover letters with just one shortcut, significantly reducing time and effort.
- Integrated Node.js into the extension's architecture to allow seamless communication with a back-end server.

Telephone Hut – GitHub Link *July 2022 – August 2022*

- Developed a Phonebook application in Java enabling users to store, retrieve, or modify their contacts with call history tracking.
- Transformed the application from a console-based UI to a GUI using Java Swing Framework within three weeks.
- Used Single Responsibility Principle (SRP) to increase the readability and testability of code.
- Incorporated data persistence in the project using JSON to parse and save user's progress.
- Integrated JUnit Testing methods to ensure code quality and functionality.
- Used Git to track and manage changes made to the project.

Water Potability Predictor – GitHub Link *February 2022 – April 2022*

- Developed a robust classification model utilizing an online dataset to accurately predict water potability.
- Used R to train a KNN classification model that predicts water potability in underdeveloped countries to 86% accuracy.
- Took on a leadership role in the team and assigned duties to team members for data cleaning and wrangling.
- Assisted team members in cross-validating data and making data visualizations in R.
- Authored the final project report in Jupyter Notebook by explaining visualizations and presenting prediction results.

School Projects/Games *January 2021 – December 2022*

- Developed a console-based address book application on Replit using Python in 2 weeks.
- Created games such as tic-tac-toe and rock-paper-scissors during a 2-month period on Replit.
- Built a 4 by 6 memory game GUI using Java Swing and JavaFX in the span of two days.
- Added a typing-text effect to launch the memory game using JavaFX libraries.

EXTRACURRICULARS AND COMPETITIONS

cmd-f Hackathon 2024, *UBC* *March 2024*

- Spearheaded the development of a cutting-edge fashion trend analysis webpage and a chatbot for personalized styling recommendations, successfully integrating Cohere's Chat API for nuanced language understanding.
- Used prompt engineering to analyze user-uploaded photos and videos of their wardrobe, leading to personalized styling advice.
- Utilized Next.js, JavaScript, and Axios for efficient API calls, reducing data retrieval times by 25% and improving the responsiveness of the application.
- Played a pivotal role in the creation and delivery of a persuasive project pitch to increase interest from hackathon judges.

nwHacks Hackathon 2024, *UBC* *January 2024*

- Played a key role in a team environment at nwHacks 2024, showcasing adaptability and strong collaborative skills in one of North America's largest hackathons.
- Assisted with the development of an AI-driven web app using React.js, Tailwind CSS, and JavaScript for automated note generation from YouTube videos.
- Prioritized user experience, ensuring intuitive navigation and accessibility across the application.
- Applied agile methodologies for rapid development and iterative improvements, achieving a functional prototype within stringent deadlines.

Hack the Change Hackathon 2022, *Eventbrite* *November 2022*

- Led a team of three to develop a dynamic Calorie Tracker Application using Java.
- Developed a comprehensive project plan and timeline, ensuring the project's progress aligned with the hackathon's time constraints and deliverable requirements.
- Delegated specific roles and responsibilities to team members to foster a collaborative and efficient development process.
- Collaborated with team members to create a compelling video description that effectively showcased the application's features, benefits, and potential impact on promoting healthier lifestyles.

EDUCATION

Bachelor of Science – University of British Columbia, Vancouver, B.C *September 2021 – Present*

- Third-year student pursuing a Combined Major in Computer Science and Mathematics
- Relevant coursework: Computer Programs and Programming, Introductory Data Science, Introduction to Software Design, Algorithms and Data Structures, Introduction to Computer Systems, Differential, Integral, and Multivariable Calculus

AWARDS AND RECOGNITIONS

- UBC Dean's List (2022)
- University of Waterloo Fermat Math Contest- 1st place (2020)
- Principal's List Honour Roll Certificate (2019 and 2020)
- A-Honour Roll Certificate (2018)
- Mathematics Award (2018)