Alexander Potiagalov

Vancouver, BC | 604-352-5948 | apa168@sfu.ca | linkedin.com/in/alexander-potiagalov/ | github.com/AlexanderPotiagalov

Technical Skills

Languages: Python, C, C++, C#, JavaScript, MATLAB, HTML/CSS
Libraries/Frameworks: NumPy, React, Pandas, Flask
Tools: GitHub, VS Code, Visual Studio, Figma
Data Analysis: Statistics, Machine Learning, Data Visualization, Survey Methodology
Other: Fluent in French, Russian, and English

Technical Experiences

JavaScript Developer, SFU StormForge Project Nov. 2024 – Present
Simon Fraser University *Burnaby, BC*

- Designing and developing a full-stack **e-commerce and messaging platform** tailored for SFU students.
- Implementing **user authentication**, item listings, and messaging using **React**, **Node.js**, and **MongoDB**.
- Collaborating with a **team** to create a user-friendly interface and robust backend infrastructure using **Figma**.

Frontend Developer, Fall Hacks Hackathon Sep. 2024
Simon Fraser University *Burnaby, BC*

- Developed a space-themed **game** using **JavaScript**, **CSS**, and **HTML**.
- Focused on implementing responsive and engaging **front-end designs** to enhance user experience.
- Collaborated with a team to create a **cohesive** and **functional** game prototype within a strict deadline.

Technical Projects

Vacuum Cleaner AI | *Python* Jan. 2025

- Developed a program simulating a vacuum cleaner navigating and cleaning a room.
- Implemented multiple search algorithms, including **BFS**, **DFS**, **UCS**, **Greedy Search**, and **A* Search**.
- Utilized two heuristics for **A* Search**: **Manhattan** distance and **Euclidean** distance, to optimize pathfinding accuracy and efficiency.
- Demonstrated proficiency in AI pathfinding and optimization techniques to efficiently clean rooms of varying complexity.

React and JavaScript Portfolio Website | *React, JavaScript* Dec. 2025

- Developed a personal **portfolio website** using **React** and **JavaScript** to showcase projects and skills.
- Designed **responsive** and interactive web pages, ensuring compatibility across **multiple** devices.
- Integrated **animations** and **dynamic** content to enhance user experience and engagement.

AVL Tree Implementation | *C++* Dec. 2024

- Designed and implemented a fully functional **AVL Tree class** to ensure balanced binary search operations.
- Included features such as **insertion**, **deletion**, **rebalancing**, and **height tracking** with thorough testing.
- Optimized for efficiency, achieving **logarithmic time complexity** for search, insert, and delete operations.

Mastermind Game Variant | *C* Jan. 2023

- Developed a Mastermind-style game where players guess a sequence of numbers and receive detailed feedback.
- Implemented **memory allocation** to save previous guesses and provide feedback on exact/partial matches.
- Utilized **Valgrind** to check for memory leaks, ensuring efficient memory management

Billboard Top 100 Songs Analysis | *Python* Oct. 2023

- Built a **Python**-based tool to analyze trends in Billboard's Top 100 charts using **Pandas** for data manipulation.
- Enabled users to quickly **retrieve** and view chart history for specific songs and artist performance over the **years**.
- Designed a robust system to efficiently handle and analyze **large** data **files**.

Education

Simon Fraser University Burnaby, BC
Bachelor of Applied Science in Computing Science, Minor in Business *Sept. 2023 – Dec. 2027 (Expected)*

- **Relevant Coursework:** Statistics, Machine Learning, Algorithms, Data Structures, Database Systems, Python Programming
- **GPA:** 3.62/4.0