Coleman Lai

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Skills

- **Languages/Frameworks:** HTML/CSS/JavaScript, TypeScript, SQL, Python, C, C++, C#, React, Node.js, TailwindCSS
- **Programs/Tools:** Visual Studio Code, Git, OpenAI API, MATLAB, PyTest, WebSocket, Unity, WordPress
- **Knowledge Base:** Object-oriented programming, linear algebra, probability/set/graph theory, DSA, calculus

Project Experience

Data Dave | nwHacks Hackathon: 600+ people | Collaborative | 🔗   Jan 2025
- Developed a CSV analysis AI assistant with a React-TypeScript frontend and a Flask-WebSocket backend
- Engineered a context-aware LLM system to prevent AI context loss and hallucinations, ensuring accurate analysis
- Implemented dynamic visualization generation and data analysis using OpenAI API's function calling capability

MACHI-NE- | Collaborative | 🔗   Oct – Dec 2024
- Developed an interactive emergency report app using React-TypeScript, enabling real-time incident visualization
- Created a frontend interface with dynamic map markers, interactive map movement, and incident filtering
- Used Agile techniques to manage development, including sprint planning and iterative feature delivery

SFU Scheduler | Collaborative | 🔗   Sep – Dec 2024
- Developed a web application using HTML, CSS, and JavaScript that integrates the SFU Course Outlines REST API to generate conflict-free schedules based on user-selected courses, increasing students' ability to plan effectively
- Designed and implemented a robust scheduling algorithm to account for varying course components such as tutorials, online courses, and labs, ensuring accurate, conflict-free options for a variety of course combinations
- Assisted team members in debugging and ensuring good programming practice, creating clean and readable code

Be Square (Best AI Hack) | StormHacks Hackathon: 400+ people | Collaborative | 🔗   Oct 2024
- Developed an Adobe Express add-on using JavaScript, integrating OpenAI's API for creative element generation and modification through commands in natural language, enhancing user accessibility and workflow efficiency
- Implemented OpenAI integration by setting up function calls for capability of natural language processing
- Worked collaboratively within tight time constraints by using paired programming techniques to accomplish tasks

Origami Fractions | Self-Directed | 🔗   Jul 2024
- Developed a web application using HTML, CSS, and JavaScript that calculates and visualizes folding sequences to divide a square sheet of paper into user-specified fractions, assisting origami artists with precise folding steps
- Utilized SVG tools to create dynamic visualizations of folding algorithms, making complex techniques accessible
- Applied modular design techniques to structure visualizations and algorithms for reusability and versatility

Work Experience

Website Enhancement and Administration | iListen Canada   Jul – Oct 2024
- Upgraded company website built on WordPress, ensuring alignment with company values and increasing appeal
- Constructed a well-documented maintenance document, containing results of a needs analysis of the site
- Injected custom functions and styling using HTML, CSS, JavaScript, and PHP to improve design and functionality

Assistant Camp Coordinator | Children's Summer Camp at CCM Canada   Jun – Aug 2019
- Led a large group of children in activities including games and crafts through clear, age-appropriate instructions
- Developed and taught structured lessons twice weekly with focused activities and exercises, fostering effective communication through clear, concise explanations and encouraging feedback to gauge comprehension

Education

BSc, Major in Computing Science | Simon Fraser University, Burnaby, Canada | **3.93/4.33** cGPA   Sep 2023 – Present