Jason Mac

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EDUCATION

University of British Columbia — Vancouver, BC, Canada
Bachelor of Applied Science in Computer Engineering — *Sept. 2024 - Present*
- GPA: 95.1%
- Relevant Coursework: Algorithm Design and Analysis, Database Mangament Systems, Software Construction, Probability, Proofs

Douglas College — New Westminster, BC, Canada
Engineering Associate — *Sept. 2022 – May 2024*
- GPA: 4.24/4.33
- Relevant Coursework: Intro to Python, Object-oriented C++, Calculus I-III, Linear Algebra, Discrete Math

PROJECTS

Lox Interpreter | *C#, Python*
- Built a fully functional interpreter for the Lox programming language in C#, following the structure and guidance from *Crafting Interpreters* by Robert Nystrom.
- Developed the lexer, parser, and evaluator modules, creating a clean and modular architecture
- Implemented control flow, functions, and variable handling, with runtime error reporting for debugging purposes
- Extended Lox with object-oriented features, allowing support for classes, inheritance, and encapsulation
- Wrote Python scripts to generate C# code for the Lox interpreter, enhancing development speed and modularity

Tetris Game | *C, Raylib*
- Developed Tetris game in C using Raylib library for graphics and input handling, implementing classic gameplay
- Designed and managed the game loop, collision detection, shape spawning and board state
- Implemented game over conditions, score increasing, and restart gameplay functionality
- Organized Tetris source code into modular and organized C and header files for a readable library structure

League of Legends Analytics | *Javascript, Express.js, HTML, Oracle*
- Designed a full-stack application to help players analyze performance and make informed champion and strategy choices based on trending data
- Developed the web application using a Node.js and Express.js backend serving RESTful APIs and a dynamic frontend using JavaScript and HTML
- Implemented database schemas and queries using Oracle to store and retrieve league of legends match data
- Collaborated with two other team members using Git for version control and code reviews

Fitness Workout Logger | *Java, Java Swing, JUnit*
- Developed a desktop fitness tracking application to log workouts, manage routines, and analyze progress
- Applied test-driven development to guide feature implementation through iterative testing with JUnit
- Used JSON for persistent data storage, allowing users to save and load workout data from file locally
- Implemented a Swing-based GUI with multiple interactive tabs for adding, viewing, filtering, and deleting workouts

TECHNICAL SKILLS

Languages: Python, C/C++, C#, SQL, JavaScript, HTML, Java, Bash/Zsh, LaTeX
Developer Tools: Git, GitHub, Neovim, Visual Studio, Jupyter Notebook

EXPERIENCE

Site Foreman — Jan 2020 – May 2022
True Level Concrete — *Surrey, BC, Canada*
- Manage teams of three or more to ensure work contracts are completed within given deadlines
- Engage in the repairs of concrete foundations and slabs through industry methods
- Repair and maintain mechanical equipment in work trucks
- Sell to customers further services as determined on site

REFERENCES

- References given upon request