JIAYIN CHEN

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EDUCATION

McGill University
B.S. Computer Science
September 2015 - December 2018 (cGPA: 3.36)
Relevant coursework: Software Systems, Software Design, Algorithms and Data Structures, Computer Systems, Web Development, Algorithm Designs

École Polytechnique Fédérale de Lausanne (EPFL)
Student Exchange Computer Science
Relevant coursework: Operating Systems, Database Systems, Computer Graphics, Visual Computing

PROJECTS

Procedural Terrain   Feb.2017 - Jun.2017
- Implemented fractal Brownian Motion to generate a height map for an alpine terrain using real-time rendering
- Automated a perspective camera that follows a smooth Bezier path when exploring the topography using view matrices, which solves the discontinuity problem at the curve boundaries
- Modulated different surface properties and used weighted blending when rendering texture
- Built with: OpenGL.

Comic Database Interface   Feb.2017 - Jun.2017
- Constructed and designed the Entity-Relationship Diagram of the database
- Implemented a function that identifies and excerpts data with nested information and then consolidates or truncates redundant and similar data accordingly
- Wrote an interface accommodating predefined search queries using MySQL
- Built with: Python, PHP, MySQL, html, CSS.

Interactive Board Game   Mar.2017 - Jun.2017
- Successfully implemented an interactive board game that consists of tilting a lego board in front of the camera to control a virtual ball to hit obstacles in order to collect points
- Computed pose estimation of the board by implementing blob detection, Hough transform line detection and best quad selection function
- Integrated physics principles, such as gravity and friction, to the virtual model to simulate the tangible game
- Built with: Processing, Blender.

Snek (updated Snake game)   2017
- Implemented snake body, food and skin objects to access and store data
- Implemented a draw function that updates the snake's head and body position on the canvas
- Created alert messages that appear on the screen for a short amount of time
- Implemented and debugged a functional game without any use of API within 24 hours
- Built with: Javascript.

Parser, Evaluator for a WML inspired language   2016
- Implemented a parser function that take a WML string as parameter and recursively truncate and store the environment variable into tokens in a tree-like object
- Implemented an evaluator function that take the root node of a tree like object as parameter and evaluates the commands in its environment
- Implemented closure in function and hierarchy using WML template definition
- Built with: Javascript.

Web based LinkedIn mini system project   2016
- Worked as part of a team in coding a networking system website that requires a login prompt
- Implemented the back-end to store and retrieve customized users' information using C and Python
- Implemented the status feed that shows up to 20 newest feeds from connected users
- Designed the front-end of the pages using html
- Built with: C, Python, html.

SKILLS

TECHNICAL   **LANGUAGES**
- Proficient: Java, Javascript, Python   Fluent English, French and Mandarin
- Intermediate: C, HTML, CSS, mySQL
- Basic: Bash, MIPS Assembler

ACTIVITIES

McGill Women In Computer Science(McWiCS) · VP Events   2016 - Present
- Contacted sponsors and speakers for our events(kick-off event, workshops, on-site tours, etc)
- Reached out to students about our club
- Organized and managed events