Simon Chau

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EDUCATION

University of Toronto — Toronto, ON
Honours Bachelor of Science — Computer Science Specialist — GPA: 3.74 — *Sept. 2019 – June. 2023*

- **Selected Coursework**: Software Engineering, Data Structures & Algorithms, Principles of Programming Languages, Software Design, Computer Organization, Software Tools & Systems Programming.

EXPERIENCE

IBM — Ottawa, ON
Incoming Software Engineer Intern — *Jan. 2022 – April. 2022*

- **Area of work**: IBM Cloud and Cognitive Software.

Codepxl — Toronto, ON
Backend Developer Intern — *June. 2021 – Dec. 2021*

- Implemented additional functionality and features to web applications used by thousands of children & families.
- Engineered the backend for a set of mobile applications consisting of APIs with CRUD and search capabilities.
- Integrated the codebase onto a server, using cPanel and Cloudflare, in order to receive feedback from clients.
- Based on client requirements, carefully considered the management of data by creating database designs.

PROJECTS

AfriConnect – E-Learning Platform
MERN Stack - MongoDB • Express.js • React • Node.js — *May. 2021 – Aug. 2021*

- Diligently worked in a team of seven to create a full stack web application geared towards African entrepreneurs.
- Utilized Git for version control and Jira for work management to regulate and manage the implementation of features such as real-time messaging, videos, and discussion forums.

Zoomer – Ride-Sharing
Java (Maven) • Neo4j • MongoDB • PostgreSQL • Docker — *Aug. 2021*

- Implemented the back-end for a ride-sharing web application with a microservice architecture.
- Programmed an API Gateway to communicate with all three microservices: user, location, & trip information.
- Created CI/CD test cases on GitHub Actions consisting of requests that go to the API Gateway.

Pathfinding Visualizer
Python (Pygame, Tkinter) — *May. 2021*

- Programmed Dijkstra's algorithm and A* search algorithm which uses Manhattan distance as a heuristic.
- Designed a simple and clean user interface, compiled basic statistics (path length and number of nodes visited).

Tic-tac-toe AI
Python — *April. 2021*

- Developed an unbeatable AI through the minimax algorithm which will always guarantee the best move is made.
- Optimized the algorithm by disregarding any redundant evaluations via alpha-beta pruning.

Sudoku Solver
C — *Jan. 2021*

- Implemented a recursive backtracking algorithm to solve any valid Sudoku board.

Mock Bash Shell
Java — *Nov. 2020 – Dec. 2020*

- Collaborated in a team of four, adhering to the Agile method which led to organized and efficient code.
- Completed exhaustive JUnit testing, resulting in error-free code and assurance everything functions as intended.

PROGRAMMING SKILLS

- **Languages**: Python • PHP • C • Java • JavaScript • HTML • CSS • Bash • Scheme / Racket • Haskell • Assembly
- **Technologies**: Laravel • MySQL • Docker • Git / Github • React • Postman • SSH • Eclipse • JUnit • Photoshop