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