

CHI MING LAI

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Summary

- Bachelor of Computing candidate, Queen's University.
- Web development expertise – Built and deployed web applications using Vercel and Heroku, with hands-on experience in both frontend and backend development.
- Proficient in backend Backend and middleware development – Created and integrated APIs and middleware for personal projects, enhancing web functionality and ensuring seamless data flow between services.
- Skilled in Frontend development – Developed responsive websites and managed content using Wix and GitHub, demonstrating proficiency in design and content management.
- SQL/PLSQL proficiency – Designed and implemented enterprise-level database procedures, contributing to scalable and efficient data solutions.
- Data-driven thinker – Automated data workflows and structured SQL/PLSQL procedures, optimizing system performance and reducing manual tasks.
- Quality assurance experience – Designed and implemented QA testing for web applications to ensure functionality, performance, and user experience.
- Algorithmic problem solver – Applied sorting logic and procedural updates in database management to mirror efficient algorithm design patterns.
- Version control expertise – Managed SQL/PLSQL projects on GitHub, demonstrating collaborative development and organized code management.
- UML diagramming – Created UML class and sequence diagrams as part of software design coursework.
- Advanced Microsoft Office skills – Proficient in Word, Outlook, Excel, and PowerPoint, with experience presenting complex projects.
- Effective communicator – Developed strong communication skills through collaborative projects and presentations.

Education

Queen's University

September 2024 – Present

Bachelor of Computing (Honors)

Kingston, Canada

- Computer Science program has developed my analytical ability to problem solve, differentiate, critically think, and create code.
- Relevant Course: CISC121 Introduced to the software development lifecycle, including Agile methodologies like Scrum, with hands-on experience through labs and small projects..
- Languages: JavaScript(React), HTML/CSS, Python, C/C++, SQL/NoSQL (Oracle,Postgres,MongoDB).

Seneca College

2021 – 2023

Diploma in Computer Programming

Toronto, Canada

- Relevant Courses: Web422, Developed full-stack web applications using React, showcasing proficiency in modern web development practices..
- Gained experience in data structures and algorithms through coursework, demonstrating proficiency in key data structures such as AVL trees and hash tables, implemented using python.
- Completed courses in Software Analysis and Design, with a focus on creating UML class and sequence diagrams through case studies, simulating the development process in a business environment, Tool used: visual paradigm.
- Applications: Microsoft Office, Canva, Wix, WordPress, Github, Adobe Creative Suite.

Technical Experience

Qweb web developer

2025

- Responsible for developing and implementing new features across both the front-end and back-end for the Qweb website.

Portfolio Website

2023

- * Developed and deployed a responsive portfolio site using React and Next.js for both frontend and backend development.
- * Designed and implemented a visually appealing user interface using Bootstrap and custom CSS.
- * Integrated Formspree to implement a fully functional contact form that sends inquiries directly to email, enhancing user engagement and accessibility.
- * Collaborated with peers to test and debug code, ensuring high quality, functionality, and effectiveness across all components.

Museum Treasure Hunt WebApp development

2023

- * Developed a museum artifact browsing web app using Next.js and React, deployed on Vercel.
- * Created custom middleware to handle authentication, validate API requests, and manage role-based access control, ensuring secure and efficient data flow between frontend and backend.
- * Built secure user authentication and authorization by integrating MongoDB for user data storage (e.g., usernames and hashed passwords) and JWT (JSON Web Token) for session management and access control.
- * Applied cybersecurity best practices by implementing encrypted password storage, HTTPS, and token expiration policies to protect user credentials and sensitive data.
- * Designed an advanced search system that enables filtering by title, geographic location, medium, highlighted status, and current availability of artifacts.
- * Enforced data encryption and secure storage practices to safeguard user credentials and sensitive information.
- * Optimized web application performance by rewriting search and filtering algorithms, improving efficiency and reducing response times.

SQL/PLSQL Development Project

2023

- * Developed PL/SQL procedures to automate student grading and employee bonus calculations.
- * Implemented procedural logic to process and update data dynamically using cursors and conditional loops.
- * Designed and manipulated relational tables, demonstrating strong DDL/DML skills.
- * Utilized GitHub for version control, tracking procedural scripts and table modifications.

Online Store Database Management System

2023

- * Developed a C++ console-based DBMS application using Oracle OCCI to manage online store operations.
- * Designed and implemented CRUD operations for user accounts, products, and purchases through SQL queries and procedural programming.
- * Collaborated in a team to integrate product, account, and purchase management features into a cohesive database application.
- * Utilized error handling and database connectivity to ensure seamless interaction with Oracle DB servers.

Assembly Line Management System

2023

- * Developed a C++ program to simulate an assembly line system that processes customer orders through multiple workstations.
- * Utilized object-oriented programming (OOP) principles, designing classes like Station, Workstation, and CustomerOrder to model real-world manufacturing workflows.
- * Automated the flow of orders through the assembly line using the LineManager class, processing and categorizing orders as completed or incomplete.
- * Implemented templated functions to dynamically load stations and orders from files, demonstrating proficiency in file I/O, templates, and exception handling.
- * Ensured memory efficiency by dynamically allocating and deallocating objects, preventing memory leaks.

Languages

Fluent in English

Native proficiency in Mandarin and Cantonese(Chinese)