

# George Chen

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## Education

**University of Waterloo - BAsC, Honours Electrical Engineering**

Sep 2022 - Present

Relevant Courses: Linear Circuits, Digital Circuits and Systems

## Skills

**Programming Languages:** C, C++, Python, VHDL, Java, C#, JavaScript, HTML, CSS, ASP.NET Core.

**Tools/Technologies:** Altium Designer, KiCad, LTspice, Fusion 360, AutoCAD, Apache, Git, Revit.

**Hardware:** Arduino, STM32, I2C Protocol, DMM, Breadboarding, Circuits, Soldering, WHMIS.

## Work Experience

**Electrical Designer - Plan Group** | C#, AutoCAD, Revit

Jan 2023 - Apr 2023

- Conducted quality control inspections in Revit for electrical floor plan layouts for Sick Kids Hospital, resulting in a 70% reduction in completion time per layout.
- Increased CAD workflow efficiency by 10% through the development of macros and tools in C#.
- Designed and repaired plumbing and electrical fixtures in Revit for TD Bank floor plan layouts.

## Projects

**Chess App for Desktop** | Python

Jan 2024 - Mar 2024

- Developed a chess game with all classic rules in Python using the PyGame library.
- Incorporates an AI bot built using a minimax algorithm with alpha-beta pruning for decision-making.
- Employs a recursive algorithm for the dialogue window that changes according to the board state.

**Breathalyzer Device** | C/C++, STM32

Sep 2023 - Nov 2023

- Engineered an alcohol detection system that approximates the alcohol concentration in the air.
- Implemented an MQ3 alcohol sensor that interfaces with an STM32 microcontroller to compute the percent of blood alcohol in the air and display the result on an LCD screen using I2C protocol.
- Integrated a calibration procedure that uses the MQ3 to gather real-time data on the fluctuating electron flow in the sensor, allowing for more precise readings in various environments.

**Portfolio Website** | JavaScript, HTML, CSS

Mar 2024 - Present

- Created a custom website showcasing work experience and projects, accessible on multiple platforms.
- Built interactive web elements with vanilla JavaScript and CSS3 to enhance user satisfaction.
- Uses JavaScript to dynamically render HTML template pages with data extracted from JSON files.

**Blackjack Game** | Java

Apr 2022 - Jun 2022

- Developed a game of Blackjack with traditional casino-style rules with a dealer to play against.
- Employs a linked list to connect the deck of cards and resets the deck after each game.
- Designed the user interface with Java Swing and used ActionListener to handle button clicks.