





# PHILIP CHEN

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## Education

### University of Waterloo

September 2023 – Present

Bachelor of Computer Science – GPA: 3.9

Waterloo, ON

- Courses: Designing Functional Programs (**Advanced Level**), Introduction to Number Theory (**Advanced Level**), Calculus I for Honours Mathematics
- Awards: Software Engineering Entrance Scholarship (**\$4000**), President's Scholarship of Distinction (**\$2000**)

## Technical Skills

**Languages:** Java, JavaScript, TypeScript, Python, C, C++, SQL, HTML/CSS, Racket

**Technologies:** Git, Bash, Linux, React, Next.js, Node.js, Express, PostgreSQL, Tailwind CSS, Google Firebase

## Projects

### **Where Is the ISS?** | *React, Node.js, JavaScript, Axios, Tailwind CSS, WTIS REST API*

- Developed a live International Space Station (ISS) tracker with **React** for displaying the current location of the ISS on a world map (**whereistheiss.io**)
- Live ISS location information is received via **GET requests** made to the **WTIS REST API** using **Axios** HTTP Client
- Features a nostalgic 8-bit-inspired UI theme implemented with **Tailwind CSS**

### **Zombie Survival** | *Java, Swing*

- Designed a top-down zombie survival video game in **Java** using **object-oriented programming** principles
- Features a rich UI implemented with **Swing** and **Java AWT**, including a **JFrame** for hosting the UI
- Employed **multithreading** techniques to instantiate and concurrently execute multiple mutually-interacting Java objects, including running several *Zombie* objects while continuously awaiting keyboard instruction from the *Player* and updating in-game states (e.g. timer, player health, etc.)
- Features a dynamic splash screen, main menu, live leaderboard, and game over screen

### **Memoir** | *Python, Flask, MongoDB, React, JavaScript, Tailwind CSS*

- Developed a social media app with **React** for sharing and connecting with others through nostalgic memories
- Employs **Auth0** for user login **identity verification** and additional security/authentication measures
- Implements **MongoDB Atlas** for secure backend data storage (posts, user data, networks, etc.)
- Features an intricate **dynamic node network graph** for illustrating user-post connections; data is semantically analyzed with **Cohere** and processed through a **BIRCH Clustering** algorithm from **scikit-learn** before visual rendering with **D3.js**

### **TDSB Markbook** | *Java*

- Built a teacher mark book program for the Toronto District School Board (TDSB) using **Java**
- Incorporates **Java IO** functions for loading, displaying, updating, and saving student mark information through **local file manipulation**
- Features a colourful TDSB-branded splash screen designed with **Java AWT**

## Experience

### Whitby School of Music

July 2021 – Present

Piano Teacher – Associate Diploma (ARCT) in Piano Performance

Whitby, Ontario

- Teach music lessons combining practical piano and music theory instruction
- Help prepare advanced students for Royal Conservatory of Music (RCM) and Conservatory Canada exams
- Teach a wide range of ages, from early kindergarteners to university students; developed **adaptable teaching methods** based on each student's learning style and maturity level
- Significantly furthered every student's musical development

### Target Alpha

January 2022 – May 2022

Regional Director

Canada

- Organized conferences, competitions, and education resources for high school students to develop financial literacy skills
- Designed competition materials and promoted events through the creation of posters, advertisements, social media posts, and videos; initiated collaborations with schools and youth organizations across Ontario
- Worked closely with the Alberta and British Columbia branches to assist in the promotion of their provincial events/competitions and created educational shorts for their video series on financial literacy
- Led the outreach, promotion, branding, and content creation for the annual Financial Planners' Conference (FPC): generated historic record of **180** registered competitors from all across the nation