Eric **Liu**

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Education

University of Waterloo   *Waterloo, Canada*
CANDIDATE FOR BACHELORS OF COMPUTER SCIENCE   *Sept. 2021 - April. 2026*

Technical Skills

Languages: JavaScript/TypeScript, C++, Python, HTML, CSS, C, SQL, Bash

Tools: React, Express.js, Node.js, PostgreSQL, Axios, Angular, Material UI, Playwright, Git, Pandas, NumPy, Matplotlib, Selenium

Work Experience

SynMatrix Technologies Inc   *Richmond Hill, Canada*
SOFTWARE DEVELOPER   *January 2023 – April 2023*

- Utilized JavaScript, Playwright, and **TDD** to innovate a JSON-driven, **object-oriented** web automation and front-end testing software tool that performs unit, integration, performance, and end-to-end testing for the enterprise software, ultimately expediting the SDLC
- Leveraged **modularization**, **page-object model**, **polymorphism**, and the **factory method** to improve program encapsulation, scalability, abstraction, and cohesion
- Developed a single-page application with **React and Express.js**, enabling users to upload, edit, execute and visualize input JSON files
- The tool served as a prototype to drive the AI based technical support platform and was recognized by multiple development teams

GrantMatch   *Oakville, Canada*
DATA ENGINEER   *May 2022 – August 2022*

- Utilized **HTTP Requests, BeautifulSoup and Selenium** to program **automated scripts** which perform user login and extract desired information from online database platforms
- Created **over 50** web scrapers in Python using Scrapy, Selenium, and BeautifulSoup with **multithreaded design** to extract data from static and dynamic websites
- Maintained and designed the user interface of the data catalog web application using Python Dash and Dash Bootstrap components
- Built pipelines to transform **semi-structured and unstructured data** and implemented lambda triggers to map **549** scraped funding programs into the intermediate PostgreSQL database

Projects

MealForU   🔗
REACT, EXPRESS.JS, POSTGRESQL, AXIOS, TAILWIND CSS, MATERIAL UI   *Dec.2023 – Jan.2024*

- Developed a dietary application utilizing the Edamam API, in which users can input the preferred nutrient composition to obtain recipes that provide ingredients, detailed instructions, and recipe image
- Performed **server-side input verification** and conducted API calls to extract recipes from all pages in **linear time** while allowing users to save recipes to favourites
- Enable users delete and edit recipes stored under favourites and implemented a **REST API** to perform **CRUD** operations for the **PostgreSQL** database
- Implemented **clean and responsive** UI, and the feature where users can upload their own recipe to favourites

Newtonian Apples   🔗
REACT, WEBGL, C#, MATERIAL UI   *Nov.2023 – Nov.2023*

- Collaborated with 3 hackers to create a physics simulation web app, designated to engage students with physics and transcend their learning experience
- **Reverse-engineered** Unity WebGL build and **embedded** physics simulations into the single-page application developed using React and Material UI
- Assisted other developers in the development of Unity physics modules, and employed **object-oriented** programming concepts to resolve various bugs

Developer Portfolio   🔗
REACT, TAILWIND CSS   *Sept.2023 – Oct.2023*

- Designed a personal portfolio website, providing **custom screen layout** based on display dimensions to deliver the best user experience across **all devices**
- Enable users to view and download Resume, and leave a message for further communication

Steam DBot   🔗
PYTHON, PANDAS, BEAUTIFULSOUP, NUMPY, JSON   *May.2022 – May.2022*

- Programmed a bot to obtain the name, original price, discount amount, discounted price, and the links to web pages of **all discounted games** on Steam
- Extracted data across **760+** pages from the Steam API and utilized **parallel programming** concepts to improve program efficiency by **230%**
- Cleaned and transformed the extracted data and outputted results into a CSV file with UTF-8 encoding