Jongjin **Jung**

17 Bertwell Rd, Lexington, MA 02420

☐ (+1) 437-982-3854 | ✉ jjjung3571@gmail.com | 🏠 jongjinjung.com | ⬛ jongjin-j | ⬛ jongjin-jung-445595204/

Education

University of Toronto   *Toronto, Canada*
BACHELOR OF APPLIED SCIENCE IN COMPUTER ENGINEERING   *Sep 2019 - May 2024*
- Relevant Courses: Relevant Courses: Software Communication & Design, Computer Organization, Signals and Systems, Digital Systems, Programming Fundamentals, Computer Fundamental, Calculus I, II, III

Skills

Languages	C, C++, Java, Javascript, Python, HTML, CSS, ARM Assembly
Frameworks	React, Node.js, Express, Bootstrap, Gatsby, React Native
Database	MongoDB
Other technologies	Git, GraphQL, Pytorch

Experience

BOSTON UNIVERSITY LISP (Learning, Intelligence, and Signal Processing)   *Boston, Massachusetts*
SUMMER RESEARCH INTERN   *May 2021 - Aug 2021*
- Developed a neural network model that uses target propagation, which overcomes the vanishing gradient problem of back propagation using the Pytorch library
- Working on computational graphs of scalar functions and simple matrix functions

Projects

GIS Mapping Software (C++) Developed a city mapping software in C++ through using the OpenStreetMap API with two teammates using git version control. Created a navigation system using path finding algorithms(Dijkstra, A* Heuristics). Optimized Travelling Salesman Problem using 2-opt, 3-opt, and simulated annealing   [Click Here for Video]

US Covid-19 Tracker (Javascript, React.js) Developed a Covid-19 Tracker of all states in the US using the Covid Act Now API. Utilized Axios to fetch data from the API. Used React-Router to navigate different pages. Imported Chart.js and Material-UI library to visualize Covid-19 data.

Private Blog (Javascript, Node.js, Express, EJS, MongoDB) Developed a blog app with user authentication that is connected to user's local database using MongoDB. Utlilized Express to handle HTTP requests. Handled user authentication using JWT(JSON Web Token). Created frontend using the EJS view engine. Imported multer library to handle image uploads.

TTC Subway API (Javascript, Node.js, Express, EJS, MongoDB Cloud) Developed a TTC Subway API that contains information of each TTC subway station such as the line number, location, and average ridership. Implemented function to add more stations to the API in case more stations are built in the future. Connected to database in MongoDB Cloud.

Air Hockey (ARM Assembly, C) Developed a two-player air hockey game that uses VGA Display. Applied collision detection between the puck, the paddles, and the barriers. Utilized keyboard interrupts for paddle movement of both players.

Cocktail Searcher (Javascript, React, Node.js, Express) Developed a cocktail searcher that browses through all existing cocktails. User can view the image, ingredients, and instructions of the cocktail they searched. Backend fetches JSON from TheCocktailDB API using Axios, formats and sends essential data to the frontend. Used dynamic routing for individual cocktails using React Router.

Checked-To-Do (React Native) Developed a To-Do-List App which is currently available in AppStore. Users can manage their tasks by checking them off once completed. Data is stored in the local device using AsyncStorage. Currently working on more features such as adding priority and date.

Awards

2015-2018	**Gold Award**, American and UK Mathematics Competition	*Singapore*
2015-2017	**Certificate**, IGCSE (International General Certificate of Secondary Education)	*Singapore*
2017-2019	**Diploma**, IB (International Baccalaureate)	*Singapore*
2019	**Academic Award**, Academic Award at UWCSEA	*Singapore*