

# Edmond Liu

SOFTWARE DEVELOPER

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## Education

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### University of Waterloo

CANDIDATE FOR B.S. IN COMPUTER SCIENCE

- Cumulative GPA: 85.14/100
- Awarded President's Scholarship of Distinction

Waterloo, Ontario

Sept. 2017 - Exp. Apr. 2022

## Work Experience

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### SickKids Research Institute

DEVELOPER TRAINEE IN COMPUTATIONAL MEDICINE

- Developer in CHILDDb, a database allowing researchers to analyze how genes and environment interact to cause chronic diseases in children
- Created GraphQL layer to simplify requests on the front-end, along with the associated Express API providing database access
- Added a Redux state persister to allow for browser refresh and linked forms to GraphQL for more verbose error messages
- Implemented Amazon S3 Object Storage to handle large file imports and exports from CHILDDb

Toronto, Ontario

Sept. 2019 - Present

### IBM

SOFTWARE ENGINEERING INTERN

- Architected API-based microservices built with Node.js, Express, and MongoDB that extended the tools available to Account Managers
- Designed and implemented an OAuth 2.0 identity and access management service, which streamlined user experience and allowed for personal preferences and single sign-on across existing tools
- Created intuitive user interfaces with React-Redux and Angular 6, and surveyed end users during design meetings
- Delivered critical bug fixes for production software that restored functionality for over 100 Account Managers and 400+ Enterprise Accounts
- Selected as a Career and Development lead for all IBM interns across Canada and coordinated various workshops and career networking events

Toronto, Ontario

Jan. 2019 - Apr. 2019

### Home Trust Company

IT ENGINEERING & SOFTWARE DEVELOPER

- Full-stack developer for employee vacation tracker written in JavaScript, PHP, SQL and Python, which reduced the time needed to create and authorize vacation requests by over 80%
- Lead project to transfer network monitoring from 3 services to only SolarWinds NPM, simplifying the monitoring process while also eliminating notification clutter
- Produced budget reports for server upkeep and corrected various discrepancies in the Engineering budget accounting for over \$250,000
- Wrote technical documentation for users and other developers, and analyzed user requirements for vacation tracker as research assignment

Toronto, Ontario

Apr. 2018 - Aug. 2018

## Projects

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### Blaze-App.net

- A data visualization tool for runners and bikers that graphs various aspects of a workout, such as pace, ground elevation, and best split times
- Created back-end and API with Node.js and Express, with front-end in React. Enabled data visualization through Recharts and Google Maps
- Adapted tool to support GPS files exported from popular apps and smartwatches such as Strava, Garmin Connect, and Runkeeper

### Partylist.xyz

- Collaborative lobby-based playlist creator for Spotify, with a colour-shifting display mode for social gatherings
- Implemented Spotify account access through OAuth, and built PHP and MySQL backend for lobby system and song information storage
- Integrated web player and other changes in state handled through HTTP requests to Spotify Web API and Web Playback SDK endpoints

### Obscura Chess

- An intuitive voice interface for Amazon Alexa to play blindfold chess using standard algebraic notation against a computer
- Augmented Sunfish.py chess engine to run on a serverless compute environment and added support for operation through voice interface

## Skills

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**Languages & Databases:** JavaScript, Python, C++, C, Scheme, SQL, MariaDB, MongoDB, Amazon S3, HTML, CSS

**Frameworks & Libraries:** Node.js, Express, Apollo Server/Client, GraphQL, React, Redux, Sequelize, Mongoose

**Tools:** Git, Bash, Postman