Tianya Liu

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SUMMARY

Recent Master of Mechanical & Mechatronics Engineering graduate from the University of Waterloo with extensive project experience in full-stack web development. Seeking full-time software engineer position.

SKILLS

Languages:	Java, JavaScript, HTML, CSS, C#
Web Development:	React, Node.js, Express, RESTful, Bootstrap, jQuery, MongoDB, MySQL
Other Tools:	Git, Android Studio, Gradle, Google Cloud, Docker, Apache Tomcat, Unity 3D

PROJECT EXPERIENCE

Taomazon – E-commerce Bookstore Web Application

- Designed and built a **MERN (MongoDB, Express, React, Node.js)** stack based web application supporting item search, filtering, recommendations, and payment
- Built **RESTful** back-end APIs with **Express** and **Node.js** and utilized **MongoDB** database to store inventory information, user profiles and purchase history
- Implemented role-based access control (admin/user) allowing admin to perform CRUD operations
- Integrated Braintree API for payment processing and deployed server side to **DigitalOcean**

StatsNBA – NBA Player Statistics Visualization

- Developed a web app using **React**, **D3**, and **Ant Design** supported by NBA Stats API to visualize over 400 NBA players' shot data, including both player profile view and shot charts
- Integrated shot frequency filters and 2 shot themes (hexbin and scatter) to provide customized visualization
- Created an autocomplete search bar providing a suggestion list of players with names and profile pictures

RVers – Online RV Parks Review Platform

- Designed and developed a CRUD website with features including browsing/posting reviews, rating parks, and leaving comments (HTML/CSS/Bootstrap/JavaScript)
- Implemented relational database schema using **MySQL** to store all users' data
- Improved user interface by integrating **Google Map** API to display location of each reviewed park

VizAssistant – Android Assistive App for the Blind

- Developed an accessible Android app to help the blind recognize text through optical character recognition (OCR) and Android TalkBack
- Built Google Cloud Vision OCR service and deployed to Google Compute Engine Virtual Machine with **Docker**
- Implemented image uploading and JSON response parsing with multithreading on Android
- Conducted unit testing using **Robolectric** and integration testing using **Espresso**

Unity Platformer Game

- Designed a 2D platformer game with interactive game interface for fighting and item collection
- Utilized object pooling to minimize resource overhead by pre-instantiating all game entities

EDUCATION

Master of Engineering (MEng), Mechanical & Mechatronics Engineering

University of Waterloo, Waterloo, ON   Sept. 2017 – June 2019

Bachelor of Science (B.S.), Mechanical Engineering

University of Wisconsin-Madison, Madison, WI   Sept. 2013 – May 2017