

# William Li

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## EDUCATION

### University of Michigan

*Bachelor of Science in Computer Science*

Ann Arbor, MI

December 2021

**GPA:** 3.8/4.00; University Honors Distinction

**Coursework:** Operating Systems, Web Systems, Software Engineering, UI Development, Human-Centered Software, Data Structures & Algorithms, Theory of Computation, Probability & Statistics, Linear Algebra, Programming in Java

## SKILLS

**C++, C, Python, Java, JavaScript (React, Vue), HTML/CSS, PostgreSQL/SQL, SwiftUI, R, AWS, Git, Docker, Agile, Karate**

## RELEVANT EXPERIENCE

### Capital One

Richmond, VA

*Software Engineer Intern*

June 2021 – August 2021

- Modernized legacy SOAP API with over 5,000,000 daily volume and reduced complexity by 67% in **Agile** environment
- Designed **REST API** architecture to modify eConsent preferences in **PostgreSQL** database using **Java Spring Boot**
- Created API test-automation scenarios using test-driven development in **Karate** framework
- Conducted performance testing and production deployment using **Jenkins** and **AWS**

### University of Michigan, School of Information

Ann Arbor, MI

*Undergraduate Researcher (Front End Developer & Data Analyst)*

September 2019 – August 2020

- Created unit tests using **Selenium** and **Python** to ensure user functionality for online course assessments
- Debugged appearance of coding questions in [open-source Runestone eBook](#) using **JavaScript**
- Cleaned, mined, and analyzed log file data extracted from 288,547 users of CS eBooks to improve online education
- Analyzed student behavior using **C++/Python** to identify effectiveness of instructional scaffolding
- Visualized data using **R/Excel** to present students' interactions toward different computer science concepts

### The Green Line Groupe, Inc.

Boston, MA

*Software Engineer Intern*

June 2020 – August 2020

- Developed an iOS application to provide a user-friendly platform for security traders to give stock trading alerts
- Implemented and designed neumorphic price alert notification feature using **SwiftUI** and **Firebase** in **Agile** workflow
- Integrated customizable watchlist functionality using **JSON** objects to display ticker, price, volume, and market cap

## PROJECT EXPERIENCE

### Operating Systems (Thread Library, Pager, Disk Scheduler, File System)

- Developed threads and monitors for uniprocessor and multiprocessor systems in **C++**
- Constructed a pager that manages, allocates, and switches between application processes' virtual address spaces
- Implemented system calls applications can use to create, copy, destroy address spaces, and interrupt handler
- Tested and debugged using **GDB**, **Valgrind**, and automated regression testing scripts

### [ScholarMe](#) (Website Alternative to Google Scholar Extension)

- Constructed personas and conducted think-aloud sessions to improve application ([user manual](#))
- Utilized **HTML/CSS**, **JavaScript**, and Porter stemming algorithm to perform keyword analysis and automated queries
- Incorporated analysis of TXT and **JSON** files to further increase research efficiency

### Artificial Intelligence Connect Four

- Programmed Connect Four to be played with a human player or an intelligent AI in **Python** on any board size
- Created an intelligent AI to predict and look ahead some number of moves based on user's desired difficulty
- Utilized backtracking to identify optimal moves for the AI by assigning scores for each possible move

## Certification

**J.P. Morgan Software Engineering Virtual Experience:** Established financial data feeds and analyzed stock price data