

# Zhuoyuan (Geo) Li

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## Personal Portfolio Website

### SKILLS

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- **Programming Languages:** Java, Python, C, C++, MIPS, Scala
- **Web Development:** React, Vite, TypeScript, Flask, Vue, Figma
- **Data Analysis/ML:** PyTorch, Numpy, Spark
- **Database:** Couchbase, MongoDB, Neo4j, NoSQL, Cassandra, SQL
- **Game Development:** Unity Engine, C#, Blender

### EDUCATION

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#### Northwestern University

Master of Science in Computer Science (**GPA: 3.68/4.0**)

Evanston, IL

Expected Dec 2024

#### University of California, Irvine

Bachelor of Computer Science (**GPA: 3.835/4.0**)

Irvine, CA

Jun 2023

### EXPERIENCE

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#### Software Engineer Internship

Jun 2022 – Oct 2022

Texera

Irvine, CA

- Collaborated in a team of 24 engineers to develop an interactive workflow-based system for analytic data processing
- Programmed workflow windows to present users' workflow information effectively
- Visualized the workflow data in entries and charts using Angular, enabling entry modification and column sorting
- Integrated MongoDB and Scala for backend operations, allowing users to save changes to workflow entries and maintaining consistency upon page refresh
- Improved user experience by visualizing workflow results within a single window, eliminating the need for multiple tabs

### PROJECTS

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#### SimpleDB System | Java

Sep 2023 – Dec 2023

- Engineered a robust, lock-based database system supporting query operators and inter-table data management
- Designed diverse data types for efficient tuple storage and implemented an eviction algorithm for optimal data page handling between disk and cache
- Integrated fundamental operators (join, insert, etc.) for seamless data manipulation across tables
- Established a page-locking algorithm ensuring data integrity and enabling concurrent operations
- Implemented deadlock detection, promptly resolving conflicts to ensure transaction completion

#### Quench Yo Thirst Application | Python, Ionic, Firebase, Angular

Dec 2022 – Mar 2023

- Developed a mobile app that increased user water intake by 30% through personalized recommendations
- Implemented user preferences for drink type and intake quantity, with the system continuously updating recommendations and displaying recommendations as a menu through Angular
- Trained a linear regression model to provide accurate hydration recommendations based on standard water intaking guidelines and the users' hydration history
- Utilized Firebase to store user data and generated trending charts based on users' historical data, resulting in a more personalized experience

#### Web Search Engine | Python, Flask

Mar 2022 – Jun 2022

- Created a web crawler for the UCI ICS domain and designed a search engine based on user provided keywords
- Avoided similar webpages by using Simhash, and used BeautifulSoup for information extraction
- Developed a partial indexer for tokenizing webpage content, optimizing search speed based on HTML tag weights, frequencies, and TF-IDF scores, enabling the handling of tens of thousands of webpages
- Employed an Index of Index algorithm to restrict the search time under 300ms, ranking page results with TF-IDF scores