Tianyu Chen

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Education

University of California, San Diego ***September 2024 – June 2026***
M.S. Computer Science

University of California, San Diego ***September 2020 – June 2024***
B.S. Computer Science GPA: 3.99/4.00

Relevant Coursework: Prototyping, Software Engineering, Object-Oriented Programming, Data Structures and Algorithms, Machine Learning, Artificial Intelligence, Database Systems, Operating Systems, Computer Architecture, Parallel Computation

Professional Experience

Expedia Group, Austin, TX ***June 2023 – September 2023***
Software Development Engineer Intern

- Built an internal user interface using **React** and **Typescript** to streamline data preparation process of peak capacity testing, reducing data preparation time by 70%, increasing testing operators by 50%, and eliminating common errors
- Designed user request database schema and manipulated database through **GraphQL**, automated log retrieval from the data lake using **Python** for test replay, integrated BlazeMeter API to automate test initiation and monitoring, set up **CI/CD** pipeline with GitHub Actions and Spinnaker, and engaged in a complete Software Development Life Cycle
- Interviewed interface users to analyze project use case requirements, designed prototypes, and authored comprehensive documentation for future reference and project maintenance

UC San Diego Computer Science & Engineering, La Jolla, CA ***March 2023 – present***
CSE Instructional Assistant

- Communicated with instructional teams to create better learning experience for theory and database courses with 200+ students, held weekly office hours and discussion sections to help students with formal definitions, logic, and proof strategies
- Coordinated tutor tasks, overseeing homework solution drafting and grading processes to ensure consistency and accuracy
- Guided students on homework and programming projects, including finite automata simulations in **Python** and database construction in **Java** with **SQL** via JDBC API, fostering practical application of course concepts

Projects

Business Information Management Platform ***June 2024 – August 2024***

- Devised a business information management system that enables users to group and retrieve businesses by categories and efficiently get category rankings based on user-selected filters
- Built **REST APIs** using Java Spring Boot and Gradle for data transmission, created **MySQL** database to store business data and performed CRUD operations on entities, constructed UI components in the frontend using **React** to display grouping and ranking results, integrated Yelp Fusion API and parsed raw JSON response using Jackson library
- Constructed test cases using JUnit framework with 80% code coverage, fixed bugs to improve system reliability

Grocery Price Platform – Grocery Hero ***May 2022 – August 2022***
Participant in Google Software Product Sprint Program

- Designed and developed a full-stack web app that compares grocery prices among stores and automates low-price product selection to help users save 20% grocery fees per shopping list entry, selected as top 4 among 54 teams in the program
- Utilized **Java**, **HTML**, **CSS**, and **JavaScript** for development, fetched product prices through Kroger API, and developed the service architecture in the backend leveraging App Engine and Datastore with **Google Cloud Platform**
- Performed source code version management, collaborated on development cycle, code reviews, etc. using **Git** on **GitHub**

Skills

Programming Languages: Python, C++, C, Java, SQL, GraphQL, JavaScript, TypeScript, HTML, CSS, MATLAB, R
Other Technical Skills: Git, GitHub, React, jQuery, Java Spring Boot, JUnit, Linux, CUDA, LaTeX

Extracurricular Activities

Women in Computing at UC San Diego, La Jolla, CA ***January 2022 – Present***
Committee Member for Programming Competition

- Created 20+ coding problems for quarterly-held programming competitions for 100 participants, covering Tree and Graph data structures as well as algorithms such as recursion, greedy, and dynamic programming
- Designed and implemented test cases using **Java**, **C++**, and **Python** and automated solution validation using HackerRank