WINSTON TRINH

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EDUCATION

University of Southern California, Viterbi School of Engineering Los Angeles, CA
Bachelor of Science - Computer Science December 2024

Coursework: Software Engineering, Operating Systems, Algorithms, Data Structures, Artificial Intelligence, Discrete Mathematics, Professional C++, Internetworking, Embedded Systems, Probability, iOS App Development, Programming GUI's

EXPERIENCE

USC Sol Price School of Public Policy Los Angeles, CA
Research Assistant July 2024-December 2024

- Process and analyze large-scale datasets exceeding 100 GB using Python and Polars to reduce data processing time.
- Develop and implement predictive models using scikit-learn and linearmodels to support nonprofit budget forecasting analysis.

Sandlines Remote
Freelance Software Developer August 2023-July 2024

- Developing a full-stack React Native app for candidate-voter communication that amplifies voter impact in US elections.
- Built a full-stack landing page using React.js to increase user engagement during beta testing phase.
- Implemented end-to-end database management by connecting landing page to Firebase Backend through Firestore API, which supports over 100 active users.
- Collaborated with two other developers using Agile frameworks (Scrum) and Jira ticketing to ensure seamless synchronization between website and mobile app.

CS@SC Los Angeles, CA
Teaching Assistant for USC Viterbi School of Engineering June 2022-July 2024

- Lead weekly classes of up to 15 students spanning K-12th grade, teaching various computer science topics ranging from Scratch to Java/Python.
- Design lesson plans for 200+ students with interactive programming problems and homework to support practical learning.
- Advise in development of Game Design using Unity with C# and Level 1 Python by recording 3 educational videos.

PROJECTS

Supabase Rate Limiting System Beaverton, OR
PostgreSQL, PL/pgSQL, Bash, Supabase March 2025

- Built a custom rate limiting backend using Supabase and PL/pgSQL, enabling precise control over API usage across different routes and users.
- Developed RPC functions to enforce dynamic request quotas and manage system-level traffic with minimal latency.
- Automated testing with a Bash script simulating real-time API traffic, using realistic seed data to validate behavior under edge cases and production-like conditions.

UCLA Schedule Checker Beaverton, OR
Python, AWS Lambda, SNS, DynamoDB, IAM, cron February 2025

- Reverse-engineered UCLA's course scheduling site by analyzing browser network activity to replicate undocumented API requests.
- Deployed cURL-based polling logic in AWS Lambda, storing results in DynamoDB and sending seat availability info via SNS alerts.

JoesTable Los Angeles, CA
Java, Spring Boot, MySQL Workbench, HTML/CSS/JavaScript, JUnit, Cucumber, Selenium November 2023

- Coded an interactive web application with Yelp API for dynamic restaurant search and management, enabling users to find restaurants, add favorites, and schedule reservations.
- Integrated Google Maps API to allow location search via latitude and longitude coordinates and providing a visual map overview to enhance user experience.
- Initialized a MySQL database to securely store and manage user data, including credentials, emails, lists of favorite restaurants, and reservations with unit and system tests.

SKILLS

Languages: Python, C/C++, Java, SQL, TypeScript, JavaScript, HTML/CSS, Swift, Dart.
Frameworks: React.js, Next.js, Spring Boot, JUnit, Cucumber, Flask, Flutter, Tailwind.
Tools: Git, Docker, AWS EC2, AWS SNS, Linux, Bash, GitHub Actions (CI/CD), Jira, Postman, Maven, Supabase, Firebase.
Databases: MySQL Workbench, PostgreSQL, DynamoDB, Firestore.
Concepts: Agile/Scrum, REST APIs, Algorithms, System Design.