

Guanying Chen

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EDUCATION

Pasadena City College

Associate of Arts in Computer Science

Pasadena, CA

Fall. 2024 – Spring.2026

RELEVANT COURSEWORK

CS Core: Data Structures & Algorithms, Object-Oriented Programming, Intro to Data Science

Math: Discrete Mathematics, Linear Algebra, Calculus I & II & III, Differential Equations

TECHNICAL SKILLS

Languages: Java, Python, C++, JavaScript/TypeScript, HTML/CSS, SQL

Frameworks: Next.js, React, Tailwind CSS, FastAPI, Express.js

Developer Tools: Git, Google Cloud Platform, Supabase, AWS Lambda, AWS S3, CMake, Docker, SQLite, Convex, Cloudflare, Clerk, Mapbox

Libraries: SFML, scikit-learn

PROJECTS

EchoMap [\[Link\]](#) | *TypeScript, Next.js, Convex, Mapbox, Google Cloud TTS* Mar 2026 – TreeLine Hacks

- Built and deployed location-based social app to **echomap.live** with Mapbox GL interface and real-time Convex subscriptions for 24-hour voice notes discoverable within 500m GPS radius
- Engineered geohash spatial indexing algorithm for O(1) nearby lookups, querying 9 cells with Haversine formula refinement for exact distance filtering
- Integrated Google Cloud Text-to-Speech with Convex file storage, Clerk auth sync, and browser synthesis fallback for resilient AI-generated audio experience

Distributed Log Aggregation System | *C++17, Typescript, Python, SQLite, Docker* Feb 2026 - Mar 2026

- Architected a distributed observability platform similar to Splunk/Datadog with 5 microservices (C++ agent/queue, TypeScript API, Python ML service, Next.js frontend)
- Built custom high-throughput message queue in C++17 with thread pools, batching, and persistent storage for reliable log delivery
- Implemented SQLite FTS5 full-text search with external content tables and triggers for sub-100ms query times on test datasets with full-text search and indexing
- Developed ML anomaly detection using Isolation Forest (scikit-learn) with automated alerting and 200+ tests achieving 90%+ coverage

RitoEsports Tracker Chrome Extension [\[Link\]](#) | *TypeScript, AWS Lambda* June 2025 – Present

- Built and published a Chrome Extension delivering real-time esports schedules and live match tracking, using TypeScript, AWS Lambda, and S3 for scalable backend processing.
- Designed responsive, filterable UI with Tailwind CSS enabling users to browse matches by game, tournament, and status.
- Implemented secure REST API integration with optimized caching for fast, reliable updates.

Bioinformatics Gene Analysis Tool | *Java* May 2024 – June 2024

- Built a bioinformatics tool in Java for exon identification within gene sequences, implementing core algorithms and data structures.
- Created parsing and validation routines for processing genetic sequence data.
- Collaborated in 4-person team to deliver functional tool for Advanced Java and Bioinformatics course.

EXPERIENCE

Tutor & Intern

Chinatown Service Center

Jan 2023 – Aug 2024

Los Angeles, LA

- Tutored 30+ students (grades 6–10) in STEM subjects, improving digital literacy and critical thinking skills.
- Led team of peer tutors in designing structured learning modules for seasonal programs.