Sid Qian

Email: sidqian123@yahoo.com
Personal Website: sidqian.com
Mobile: 762-209-1088
Github: github.com/sidqian123

Education

University of Southern California **Los Angeles, CA**

- *Master of Science in Computer Science, GPA 3.76/4.0* May 2025
  Bachelor of Science in Computer Science & Minor in Financial Mathematics, GPA 3.86/4.0
  Recognition: *USC Dornsife & USC Viterbi Dean's List, Lenore B. Kreiger Scholarship, SOAR & PURF Fellowship*

Technical Skills

- **Languages**: C++, C, Swift, Java, Javascript, Python, HTML/CSS, SQL, Dart, XML, Typescript
- **Tools/Frameworks**: Docker, PostgreSQL, Firebase, GCP/AWS, REST, Cuda, Electron, Flask, Flutter, Linux

Projects

- **BunBon - Restaurant Social Mobile Application (Flutter, NestJS, Postgres)** Dec 2024-Present
  - Co-founded and led a 7-member team to develop a restaurant-focused social platform, designing both front-end and back-end systems while implementing personalized recommendation and rating algorithms.
  - Integrated AI-driven restaurant selection and introduced personalized scoring mechanisms, enhancing user engagement and providing a competitive alternative to mainstream restaurant apps.
- **Bond - Safety Enhancement Mobile Application (Geo-Data, Swift)** January 2024-Dec 2024
  - Designed and developed a Swift-based real-time location-sharing app that leverages Apple's native features like Active Notifications and Live Status Model, enabling students to share locations while preserving user privacy.
  - Integrated intelligent emergency detection, optimizing alert delivery and response coordination, reducing emergency response time by an estimated 30%.
- **Poseidon - Satellite Mission Control (Aerospace, Desktop Application, Cross Functional, Full-Stack, Product Design, Project Management)** January-May 2024
  - Directed a 6-member team to build a satellite control app managing 8,500+ satellites, integrating real-time telemetry, pass prediction algorithms, and 3D orbit visualization for enhanced tracking accuracy.
  - Identified flaws in satellite tracking software, improving precision by 35% and developing a modular, cross-platform solution with portable support for external hardware, including mission command input and antenna connections.
- **Meet My Classmate (Android Development, Agile, Firebase, Authentication)** August-December 2023
  - Developed an end-to-end Android app streamlining class scheduling, course ratings, and resource sharing for 500+ courses, improving student decision-making by 40% and reducing time spent on course selection by 30%.
  - Implemented real-time messaging system for course feedback, study coordination, and peer networking.

Research

- **Glab Kernel Development and Hardware Emulation Research Assistant** April 2023-Present
  - First authored extended abstract published at ACM SIGCSE 2025 showcasing EDUsim Computer Emulator.
  - Led an 8-member research group with Dr. Andrew Goodney to develop a full-spectrum hardware-to-software emulation platform, overseeing kernel binary preparation, ISA testing, and reverse engineering.
  - Designed and implemented CPU emulators and virtualization in C++ for m68k and RISC-V architectures, enhancing simulation accuracy by 30% and optimizing performance for faster execution and debugging.
- **Helioseismology Undergraduate Research Assistant** May 2023-Present
  - Mentored 4 group members to process over 200TB of data in the sunspot rotation project of Dr. Rhodes' group.
  - Developed a hybrid AI model with procedural algorithms utilizing CudaPy, resulting in a 95% faster process rate compared to the legacy script. Optimized server-side scripts for data processing on USC/Stanford's HPC.
  - Implemented a SORT algorithm to replace a decade-old synchronization script, enhancing tracking capabilities for sunspots by 60%, including those previously untrackable due to their smaller size.

Experience

- **University of Southern California** **Los Angeles, CA**
  Viterbi Teaching Assistant August 2022-Present
  - Delivered instruction and support for 4 core CS classes (Introduction to Python, Data Structures & Object-Oriented Design, C++ Programming, Computer Systems) to 3000+ students.
  - Identify and resolve pre-existing issues in class workflows, innovating new course structures that reduced response times to students' questions by 80%. Conducted individual instruction and evaluated labs and tests.

Leadership Experience

- **SC Mathematics Competition Club** **Los Angeles, CA**
  Founder and President September 2021-Present
  - Led a team of 20 founded and organized five SCMC competitions involving over 600 middle and high school students, doubling participation each year. Oversaw logistics, outreach, and curriculum development.
  - Expanded SCMC with mentorship and panel discussions, creating pre-college STEM opportunities for underprivileged students. Led collaboration across educators, industry, and university teams to maximize impact.