Qingyang Hu

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EXPERIENCE

IXL Learning   San Mateo, CA
Software Engineer – Mobile (iOS)   *Jul 2024 – Current*
- Collaborated with product managers, designers, and a team of 5 engineers to develop IXL Learning's iOS app for K–12 students (1.5M+ monthly active iOS users), with Swift, SwiftUI, RxSwift, UIKit, Java, and React.
- Revamped the guest experience by redesigning the practice-limit and login pages with SwiftUI and Lottie animations, and integrating cloud-distributed videos, increasing mobile subscriptions and revenues by 20%.
- Led engineering for the in-app assessment calculator, integrating React components via WebKit bridging and Redux pattern for seamless native–web interaction, with CDN and local caching to improve load performance.

California Informatics Competition *(CALICO)*   Berkeley, CA
Infrastructure Specialist   *Jan 2024 – Current*
- Managed the computing infrastructure for UC Berkeley's high school coding competition, ensuring high concurrency and reliability for 1,000+ global participants during a 3-hour contest period, using Google Cloud, and Cloudflare.
- Architected and migrated the system from a bare-metal setup to a containerized and distributed solution on Cloud Run and Cloud SQL, enabling automatic scaling and load balancing, while reducing costs by 75%.

University of California, Berkeley   Berkeley, CA
Research Assistant - AI Infrastructure   *Aug 2023 – May 2024*
- Researched and designed domain-specific languages (DSLs), covering data transformation, model training, validation, and deployment, which enables distributed, low-code/no-code AI pipelines for non-technical users.
- Developed the approach through a real-time traffic analysis and visualization system for Bay Area freeways on Google Cloud using CUDA, Apache Beam (Dataflow), Kafka (Pub/Sub), Iceberg (BigQuery) and Grafana.
- Extended the AI pipeline framework to the edge through *CapsuleFS*, a Rust-based POSIX filesystem using blockchain technologies for secure, multi-credential, and low-latency data sharing across distributed nodes.

IXL Learning   San Mateo, CA
Software Engineer Internship – Infrastructure   *Jun 2023 – Aug 2023*
- Built command-line tools to analyze Maven (Java) and npm / Yarn (JavaScript) dependencies, automatically detecting updates and vulnerabilities across projects, improving maintenance speed and security.
- Developed full-stack web interfaces with Java, React, and PostgreSQL on Docker with AWS, integrating semantic versioning to manage and approve dependency updates efficiently, reducing manual effort and review workload.

Meta *(formerly Facebook)*   Menlo Park, CA
Software Engineer Internship – Infrastructure   *Jun 2022 – Sep 2022*
- Developed full-stack web pages using React and PHP for a unified platform that streamlined monitoring across multiple MariaDB (MySQL) databases with caching and pre-loading, improving efficiency for internal teams.
- Implemented customizable predicate filters with ORM and GraphQL and optimized SQL queries and data fetching, resulting in an 80% increase in productivity for Ads and Instagram teams based on internal survey feedback.
- Conducted a tech talk to 700 employees on the techinical designs, with a proposal for future unification plans.

EDUCATION

University of California, Berkeley   Berkeley, CA
Master of Engineering in Electrical Engineering & Computer Science **GPA: 3.95/4.00**   *Aug 2023 – May 2024*
- **Coursework:** Data Science, Operating Systems, Cloud Computing, Distributed Systems, Parallel Programming

University of California, San Diego   San Diego, CA
Bachelor of Science in Computer Engineering; **GPA: Overall 3.94/4.00, Major 4.00/4.00**   *Sep 2019 – Jun 2023*

SKILLS

Swift *(SwiftUI, RxSwift, Lottie, Alamofire)*, Rust *(FUSE, Tokio, ProtoBuf, GraphQL)*, CUDA, Java *(Apache Beam, Apache Kafka, SpringBoot, JUnit)*, JavaScript *(React, GraphQL, Next.js)*, Go *(Fiber, SQLx)*, SQL *(MySQL, ORM)*

AWARDS & ACHIEVEMENTS

Apple Swift Student Challenge *(formerly WWDC Scholarship)*: Twice awarded by Apple in 2017 and 2018 for extraordinary skills and passion in iOS development with Swift, being one of only 300 students selected globally each year.