Claire Xu

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EDUCATION

University of California, Los Angeles **Los Angeles, USA**
Bachelor of Arts, Computer Science and Linguistics; Bachelor of Arts, Communications Studies **3.916 GPA** *2020 – 2024*
Honors: Cum Laude, Dean's Honors List

SKILLS

Languages:	English, Mandarin, Korean
Programming:	**TypeScript/JavaScript, Python, HTML, Golang,** SQL, C++, Java
Web Dev:	**React.js, Node.js, Express.js,** Next.js, Flask
Tools/Platforms:	**Redis, PostgreSQL, Kubernetes (EKS), AWS, Git**, **Docker,** Kafka, MongoDB, Unix/Linux
Frameworks:	RESTful APIs, Cloud Infrastructure (AWS, GCP), Microservices Architecture, Unit Testing

JOB EXPERIENCES

Tiktok Inc., Music Team **San Jose, CA**
Software Engineer I | Golang, Redis, SQL/NoSQL, AWS, Microservices/Distributed System *July 2024 – Present*
- Develop platform **APIs** (HTTP routing, business logic, account auth) for large music labels using **Go**, contribute to **$1M+ revenue**. Independently develop TikTok's only SaaS music algorithmic promotion tool, integrating backend RPC APIs with frontend and utilizing cloud **microservices** (**serverless AWS Lambda, EC2, DCM**) to achieve a **scalable distributed system**.
- Optimize resource calculation pipelines using **message queue** and async computing to process large-scale data efficienctly.
- Design and maintain data pipelines for music promotion platforms; **ORM** and **SQL** to manage queries, **Redis** for quick-cache storage.
- Enhanced CI/CD by optimizing code review workflows (stacked diffs), reduce tech debt by **improving unit test coverage by 400%.**
- Collaborated cross-functionally with product, operations, and QA in an **Agile** environment, perform code reviews and sprint planning.

Tiktok Inc., Audio/Video team **San Jose, CA**
Android Engineer Intern | Gitlab/Git, C++, Java, OpenGL *June – September 2023*
- Implemented video encoder optimizations, reducing upload latency and **enhancing performance for 10B+ users**.
- Designed **20+ local performance tests** in the TikTok app, collecting data and improving code architecture based on real-time feedback.
- Conducted performance profiling using Android Studio tools, identifying memory leaks and optimizing code efficiency.
- Developed technical documentation to support onboarding and streamlined debugging processes across the development team.
- Communicated with 2+ XFN teams to optimize the SDK in a multithreaded environment, align with **Google** developers on latest updates of the **AMediaCodec Android API.**

PROJECTS

Cartgoers – *Interactive Reservation Webapp* **Los Angeles, CA**
Leader and Full Stack Developer | Node.js, Express.js, React.js, RESTful APIs *October – December 2022*
- Led webapp development that shows real-time storage cart availability and allows reservation for UCLA students using **MERN** stack.
- Developed key frontend features (account, cart reservation and availability) **using React.js and MUI**.
- Implemented account authentication/authorization with **bcrypt.js** & **JSON web token**, private route protection @**React Context API**.
- Design and implement database schemas in MongoDB, developed cart reservation **RESTful API** endpoints using **Express.js**.

CREAM – *Music Creation Plug-in and Desktop App* **Remote (Los Angeles, Korea)**
Founder and Full Stack Developer | C++, JUCE *June – August 2022*
- Led development of a music synthesizer application capable of real-time instrument playback audio using **C++ and JUCE**.
- Created a Preset Manager that saves user-created sounds and manages all sounds in the application.
- Constructed 10+ backend parameters for audio manipulation such as oscillators, filters, and reverb using the **DSP module in JUCE**.
- Organized and led 3 group members through development lifecycle to design backend structure and frontend interface design.

Homeless Simulator – *Qwerhacks Hackathon Project* **Los Angeles, CA**
Leader and Frontend Developer | JavaScript, HTML, CSS, React *March 2023*
- Created a web-based interactive game to raise awareness for the unhoused using **HTML, CSS, React.js** and **Material UI**.
- Won first prize in housing insecurity track and best webapp: *https://homeless-simulator.vercel.app/*

MUSIC

@ROOM4A Music Studio **Shanghai, China**
Topliner, Producer, Audio Engineer Intern | Logic Pro X, Songwriting, ProTools *Dec 2020 – Dec 2021*
- Wrote, produced, and engineered 10+ songs for Voice of China music studio, stored in company song bank.
- Personal music demo portfolio:
  https://docs.google.com/document/d/1QBnLJpaHoeMu_9uby1KLvUHPDFDWrCIglbFoq9dH0rw/edit?usp=sharing