Siying Chen

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EDUCATION

Northeastern University   Jan 2022 – Present
Align Master of Science in Computer Science (MSCS)   *San Francisco, CA*

- **GPA:** 4.0/4.0
- **Coursework:** Intensive Foundations of CS, Discrete Structures, Data Structures, Algorithms, Object-Oriented Design, Building Scalable Distributed Systems

TECHNICAL SKILLS

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

Cloud/Databases: Docker, Kubernetes, Google Cloud, Google Firebase, MongoDB, Redis

Frameworks/Libraries: Hilt/Dagger, GMS, Retrofit, React, Node.js/Express, NATS, Google SDK/grpc

PROJECTS

Instacart Android(Mobile App)   Dec 2021 – Present
- Built both User/Driver Apps, key functionalities include account sign-in/register, finding a driver and route planning.
- Built UI in Fragments using **Navigation graph**, followed material design, used **Hilt Dependency injection**(interface/implementation/module) to maintain/inject the instance in right lifecycle.
- Used **Firebase Auth** for account creation/maintenance, **Firebase FCM** for Message Notification.
- Tracked locations/routes by **GMS** FusedLocationProviderClient(location fetching), FirebaseDatabase with **GeoFire**(location sync), **Retrofit** with **Direction API**(route planning/ETA).

E-Commerce app(Microservices)   Feb 2022 – May 2022
- Built a large, multi-services app for tickets exchange and resale. It provides services for buyers/resellers to register, buy tickets with credit cards, list and resell tickets.
- Created scalable microservices (auth, tickets/orders creation and editing, orders expiration, payments) through a lightning-fast **event bus**(NATS Streaming Server); used a **load balancer** with the **Ingress-Nginx** controller for task distribution;
- Deployed the app to the **Google Cloud** in **Docker** containers executed in a **Kubernetes** cluster; facilitated **CI/CD** workflows using **Scaffold** in Kubernetes dev environment.
- Used **React**, **Hooks**(Node.js) and **Next.js** for server-side rendering(landing page, tickets/orders browsing); used **Node** and **Express** for tickets and order services creation; stored service data(auth, tickets, orders, payments) in **MongoDB** and order expiration data in **Redis**.
- Secured microservices with **JWT** and **cookies**; handled real credit card payments using **Stripe JS**; solved **concurrency issues** by redesigning transaction services based on **NATS**.

Python Voice Assistant(CLI)   Mar 2021 – Apr 2022
- Built a python CLI Assistant to answer basic voice forwarded queries through the web UI and TTS.
- Captured the audio from the microphone and converted it to text using **Speech Recognition**.
- Sent text Assistant **protobuf** Request to Google Assistant with fresh credential (**google.oauth2**) through the embedded assistant **grpc** channel.
- Rendered web UI in browser, extracted text response with **Beautiful Soup**, used **gTTS** for TTS.

WORK EXPERIENCE

Project Leader for Urban Stormwater Management and Analysis   Jul 2019 – Jun 2021
Sichuan Institute of Land Space Planning: Special Planning Office   Chengdu, China
- **Led a team** of six engineers, in charge of business communication and core technology building.
- Collected 30 years of precipitation data through **web crawler**; conducted weight analysis for eight flood-causing factors using the **SVR** (support vector regression) method; simulated stormwater events and mapped waterflooding zones with InfoWorks ICM 2D hydraulic model; stored street flood risk and property impact assessment results into **SQL Server** deployed on **Alibaba Cloud**.