Jiarui Xu

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SUMMARY

Seeking a 2024 **Android Developer Full time** position.

- Professionally adept in developing user-friendly and highly efficient Android applications using **Java**, **Kotlin**, **Python**, **Go**, **C++** with about **2 years** of professional work experience.
- Well-versed in Object-Oriented Programming (**OOP**) design principles such as inheritance and polymorphism.
- Possess a solid foundation in **computer science**, including expertise in software design, data structures, algorithms, and more.
- Proficient in working with **RESTful APIs**, utilizing libraries such as **Retrofit** and **OkHttp**.
- Skilled in using **HTML**, **Javascript**, **XML**, **Jetpack** for creating and designing UI layouts.
- Well-versed in the **MVVM** (Model-View-ViewModel) architectural pattern, with a deep understanding of data binding, transfer, and view models.
- Proficient in databases, particularly **Firebase**, and experienced in utilizing tools for building, debugging, and testing, using tech stacks including **MySQL**, **NoSQL**, **Room**, **SQLite**. In-depth understanding of design patterns such as **factory**, **publisher-subscriber**, **singleton**, and **dependency injection**.
- Collaborated effectively with **UI/UX** engineers, quality engineers, and software engineers across teams, significantly enhancing the overall user experience of products.
- Extensive experience in application deployment for efficient and automated development, with in-depth knowledge of tools like **Git, Gitlab** for continuous integration (**CI**) and continuous delivery (**CD**).
- Capable of simplifying complex problems, breaking them down into modular steps for efficient resolution. Experienced in exploring and evaluating entire systems.
- Proficient in **Git** and **Github** for version control, with the ability to conduct code reviews and collaborate on code pairing when working in a team.
- Familiar with the Software Development Life Cycle (**SDLC**), **Agile** methodologies, and the **Waterfall** Model. Previous experience using Jira for project management.
- Experience of **deployment** to **AWS** and **Google Cloud**.

EDUCATION

Georgia Institute of Technology — Atlanta, GA
Master of Science in Computer Science GPA: 4.0 / 4.0 — Aug 2022- Dec 2023

Xi'an Jiaotong University — Xi'an, China
Bachelor of Electronic Engineering, GPA: 3.6 / 4.0 (top 9% ranking) — Sep 2016 - Jul 2020

WORK EXPERIENCE

Stellar Services — Atlanta, GA
Full-Stack Software Engineer — Feb 2023 – Dec 2023

Our team has developed a software application that features online chat assistance by agents to facilitate property searches, along with intuitive display and search functionalities utilizing Google Maps to showcase properties across various regions.

- Proficient in leveraging **Jetpack Compose** and **Kotlin** to architect, develop, and maintain captivating user interfaces, ensuring engaging experiences.
- Skilled in debugging utilizing **Firebase cloud message** to emulate backend functionalities, while employing **Retrofit** and **OkHttp** to establish connections to the internet, integrating **RESTful APIs** for efficient handling of **HTTP** requests.
- Expertise in employing the **MVVM** architectural pattern, fostering robust and scalable application structures.
- Proficiently utilize **NavController**, **NavHost** and **Scaffold** for seamless navigation across application pages, incorporating **NavigationBar** (topBar and bottomBar) elements into application layouts, adhering to Agile methodologies for iterative and efficient application development.
- Implement advanced asynchronous programming techniques such as **coroutines**, utilizing **async/await** paradigms for enhanced performance and responsiveness.
- Demonstrated proficiency in utilizing **SharedPreferences**, **Room**, and **SQLite** to effectively manage local data storage and user preferences, while applying **OOP** principles for clean and maintainable codebase.

- Utilize **Logcat**, **Espresso** and **Jacoco** for efficient debugging, testing and error monitoring during application development, ensuring timely resolution of issues and optimization of performance.
- Assisted with the **deployment** process to the **Google Play Store**, ensuring successful distribution and availability of the application, with **CI/CD** processes.

Zhejiang University Hangzhou, China
Software Engineer Aug 2020 - Sept 2021
The app we developed is a workout software primarily tailored for cycling enthusiasts. More than 1 million downloads now. My involvement in this project chiefly revolves around designing the application's architecture, implementing key functionalities across various pages, and refining the user interface (UI) elements to optimize user interactions.

- Initially developed in Kotlin and **XML** before subsequently transitioning to **Jetpack Compose** in response to industry requirements.
- Implemented the **MVVM** architectural pattern to foster modularity and scalability within the application architecture.
- Utilized **Retrofit** to establish connections to the internet, caching with **OkHttp**.
- Designed and implemented the map and GPS system utilizing the **Google Maps SDK**, enhancing location-based functionalities within the application.
- Implemented **Switch Access** and **Voice Access** features to enhance accessibility and user experience.
- Adopted the Waterfall Software Development Life Cycle (**SDLC**) model for systematic and sequential application development.
- Implemented asynchronous paradigms such as **coroutines** utilizing **async/await**.
- Conducted unit testing using **JUnit**, ensuring the reliability and functionality of individual components within the application.
- Utilized **Postman** for comprehensive testing and validation of API endpoints, ensuring adherence to specifications and standards.
- Utilized **ProGuard** to squeeze the app size and obfuscate the code and **Jira** for comprehensive task management, fostering streamlined project workflows.
- Attempting various Layout and view: using CoordinatorLayout to create animation while the user is scrolling up; using RecyclerView to save resources while scrolling.

PROJECTS

Twitch+: A Full-Stack Twitch Resources Recommendation Engine Team Leader, Developer

- Full-Stack **Spring boot** application for user search twitch resources and get recommendation.
- Implemented **RESTful** controller APIs, and retrieved Twitch resources using Twitch API, and stored data in **MySQL** hosted on **AWS RDS, CRUD** with **Spring Data JDBC** to support login/logout and favorite collection functionalities; Spring boot **Caching** with Caffeine.

AppStore: A Full-Stack Cloud and React based App Purchase Platform Developer

- Built responsive and intuitive UI with **AntD**, and **React** to support file upload
- Launched a microservice in **Go** to handle register/login/logout/upload/checkout functionalities and deployed to **Google Cloud** (Google App Engine, Google Compute Engine)
- Utilize **Elasticsearch** (deployed to **GCE**) to provide a more efficient search experience for users

Musical Chess: C++ Real-Time Chess Game Software Developer
https://github.com/ijc8/MUSI-6106

- **Multi-threaded** collaborative operation for **real-time** response; Multiple generators individually design sound effects for each piece. Realized synthesis object: Comb Filter, ADSR, etc.
- Utilize Cmake, JUCE; Design the GUI

Multi-Tasks Bert: Nature Language Processing Deep Learning Model
Github: https://github.com/Jiarui-Xu-Gatech/Multi-Tasks-NLP-Bert-Model

- Trained multi-task of Name Entity recognition(**NER**), **intent detection**, **fragment detection** using Python, **Bert** model and plugged in **downstream** tasks using a linear layer and drop-out layer.
- The multi-task is parameter sharing, while the downstream task's parameters are separate.
- The result of using multitask can increase the performance to **1 percent** of 2 tasks out of 3 tasks compared with a baseline that is trained alone.

Image2Segments: Computer Vision Semantic Segmentation Deep Learning Model
Github: https://github.com/Jiarui-Xu-Gatech/Semantic-Segmentation-Deep-Learning-Jiarui

- Utilized the Camvid dataset with 700+ images as training and test dataset for the ML model
- Implemented **PSPNet** by using **ResNet** backbone and dilation to increase the number of receptive fields, and aggregated context over different portions of the image with a PPM

- Fine-tuned **Transfer Learning** PSPNet model to transfer it on KITTI road segmentation dataset

TECHNICAL SKILLS

Tools	Android Studio, Git, GitHub, IntelliJ, Jira, VS Code, Postman
Languages	Java, Kotlin, XML, Python, Javascript, Go, Shell, HTML/CSS
Database	SQLite (Room), Firebase, Oracle Database, MongoDB, MySQL
Client side	Jetpack Compose, MVVM architecture, Gradle
Testing	JUnit, Espresso, Mockito, Jacoco
Framework	React, Spring boot, Django