Bai Jiajun

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Basic Information

- **Nanyang Technological University, Singapore (NTU)**
  - **MSc in Artificial Intelligence (Aug 2024 - Jun 2025)**
- **University of Electronic Science and Technology of China (UESTC)**
  - **BSc in Software Engineering (Sep 2020 - Jun 2024)**
  - **Awards:**
    - National Third Prize, University Computer Design Competition
    - First Prize, Provincial University Computer Design Competition
    - Third Prize, Southwest Regional Mobile Application Development Competition
  - **Campus Experience:** Leader of the iOS Department, Star Studio, UESTC
  - **Scientfic Research Experience:** Participated in scientific research projects in the field of medical image segmentation in the National Key Laboratory, and published an article *From CNN to Transformer: A Review of Medical Image Segmentation Models*.
- **GitHub:** github.com/bill-haku │ **Personal Website:** hakubill.tech
- **Language Skills:** English (**IELTS 6.5**), Japanese (**JLPT N1**)

Professional Skills

- **Programming Languages:** Proficient in **Swift, Java, Python** with a deep understanding of **object-oriented and functional programming paradigms**.
- **Fundamental Knowledge:** Solid understanding of software development principles, data structures, and algorithms. Knowledgeable in computer architecture, operating systems, and network protocols.
- **Coding Standards:** Familiar with industry-standard coding practices and best practices, including design patterns, and code refactoring. Maintains a high awareness of code robustness and readability.
- **Communication Skills:** Excellent communication and language skills, proficient in English and Japanese, capable of effective collaboration with team members from different backgrounds.
- **Tool Usage:** Proficient in **Git version control**, with extensive experience in team collaboration. Promoted code quality and CI/CD practices. Adept at using macOS for development, including **Linux terminal commands** for system administration, scripting, and automation on macOS and Linux. Proficient in using AI tools like Copilot and ChatGPT to enhance development efficiency.
- **Open Source Experience:** Participated in GitHub Opensource Program such as PlayCover, and contributed with some of my projects, earning more than 775 stars.

Work Experience

iOS App Developer (Remote) - Beijing Dreamoon Technology Co., Ltd.　　　　　Apr 2024 - Present

- As a member of a startup team, I participated in the development of "Miley," a new project, and took responsibility for the development and maintenance of apps like "DAMA" and "ServerCat."
- Implement designed features and UI with `Swift` and `SwiftUI`, fix the bugs and keeps on project refactoring.

Software Development Engineer (Intern) - China Mobile Chengdu Institute of R&D　Mar 2023 - Aug 2023
- Collaborated with an engineering team to **develop a tourism monitoring dashboard system using Java**, and managed the images and containers of system services with **`Kubernetes`**.
- Actively participated in **project meetings and code reviews**, and closely cooperated with the testing department to ensure software quality, efficiently delivering tasks under tight deadlines.
- **Demonstrated strong problem-solving abilities** by tackling technical challenges and taking the initiative to address them.

Project Experience

Miley
- **iOS Application:** Developed using `SwiftUI`, this is a lifestyle assistant app powered by a LLM.
- **Key Responsibilities:** Responsible for the UI implementation of the main pages, building API connection, state management, color and image resource management, and system component integration.
- **Technical Highlights:** Utilized **`The Composable Architecture (TCA)`** framework to efficiently manage the app's state and simplify the code structure. Integrated system components like `HealthKit` and `EventKit` to sync health information, calendar events, and reminders.

ServerCat
- **iOS / macOS Application:** Developed using `SwiftUI` and **`SwiftNIO`**, this app is designed to manage Linux servers on mobile devices. It supports centralized management of `Docker` containers, connecting to server terminals via `ssh` to execute commands, and file transfer using `sftp`.
- **Key Responsibilities:** Developed and implemented the **`sftp`** functionality for viewing and transferring files, including file listing, hierarchical directory navigation, file upload and download, quick viewing of small files, and viewing file attribute data.
- **Technical Highlights:** Leveraged the **`SwiftNIO`** library to handle network-related functionalities, ensuring the app's performance and stability in file transfer operations.

DAMA
- **iOS/macOS Application:** An AI-based image processing tool developed using `SwiftUI` that automatically detects and blurs or watermarks sensitive information in images.
- **Key Responsibilities:** Led the development of the macOS version of the app, reimplementing the `CoreImage`-based image processing functionality using `AppKit` and `SwiftUI`, and optimizing it for the macOS platform, such as the Menubar. I focused on enhancing accessibility by using `accessibilityLabel` and `contentShape` and validating it through Accessibility Inspector.
- **Technical Highlights:** Effectively utilized the **`CoreImage`** framework to build powerful image processing capabilities, enabling the automatic detection and processing of sensitive information in images. Deeply optimized **accessibility features** to provide convenience for a wider range of users.

Pizza Helper for Genshin - github.com/pizza-studio/GenshinPizzaHelper
- **iOS/macOS Application and Backend Program:** A game assistant tool developed with `SwiftUI` and `SpringBoot`, offering global "Genshin Impact" players the ability to view game data and participate in community features. The app has been downloaded over 500,000 times.

- **Key Responsibilities:** Led the development of the app's core functionalities, including packet capturing and using the `Alamofire` library to request official APIs to fetch account information and display it in the app and widgets. Also, I impelmented the backend server, including a MySQL database, Java-based data processing, and API interface development on the self-hosted server to collect and process user data.
- **Technical Highlights:** Utilized `CoreData` for multi-account data storage with iCloud synchronization. **Adapted various iOS features**, such as widget customization, Apple Watch App data synchronization, Dynamic Island and lock screen widgets, and interactive widgets. Implemented `WebKit` to read and modify web pages within the app, enabling communication between the native iOS app and `JavaScript` code.

Other Projects

- **Qingshui Riverside - Official iOS App of the UESTC Stduent Forum:** This is the official student forum iOS app of UESTC, developed by the university's Star Studio. I was responsible for **project development** and **managing the iOS development team**, including leading weekly reports and coordinating with other development teams.
- **Pizza Helper for HSR:** A game assistant tool for "Honkai: Star Rail" players, similar to the "Genshin Pizza Helper." Reconstructed the codebase from the original project and introduced libraries like `SwifterSwift`, `SwiftyUserDefaults`, and `SFSafeSymbols` to enhance code usability, modifiability, and readability.
- **Pizza Helper for BA:** A game assistant tool for "Blue Archive" players.
- **Movie Ranker:** A visually appealing tool for personalized movie resource integration and evaluation. It integrates the TMDB API to fetch metadata and the Notion API to save user-specific evaluations. The app features an innovative rating system that allows for personalized weighting.
- **Apple Store Stock Tracker:** A tool to track the stock status of iPhones and other products in Apple Stores, facilitating quick purchases during new product launches. This App scrapes data from the Apple Store website.