

Yingke (Derrick) Ding

<https://github.com/dykderrick>

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SUMMARY

- Interned as SDE at **Amazon.com** devices team. Designed and implemented a **PostgreSQL** system to covert unstructured data, and built a web app using **Golang** RESTful APIs and **React.js** frontend.
- Proud to have developed innovative apps for Android (**Kotlin**), iOS / watchOS (**Swift**) through on-campus projects.

SKILLS

- **Languages:** Python 3, Go, Java, Swift, Kotlin, JavaScript (React.js)
- **Technologies:** Git, Django, Docker, GraphQL, REST, Redis, Unix/Bash, PostgreSQL, MongoDB, AWS

PROFESSIONAL EXPERIENCE

- **Amazon** Beijing, China
Software Dev Engineer Intern Mar 2022 - Aug 2022
 - **Data Normalization:** Converted over 300 MB of unstructured manufacturing and testing data on Amazon devices to normalized relational data. Stored the data into a well-designed **PostgreSQL** database system with **Python** scripts and **Django** framework. The overall query time for a single entry has been reduced **30 percent** compared to the original.
 - **API Center:** Used **Golang Gin** framework to build a **RESTful** API service center to handle requests and serve specific data as response. Design principles followed Google Cloud API Design Guide. Adopted **SQLX** as the ORM to the database.
 - **Web-based Application:** Used **React.js**, **Bootstrap** templating components and **Apache Echarts** data visualization tool to implement a Web Application. Deployed the app to an **AWS EC2** instance via a dedicated **docker** compose config.

FEATURED PROJECTS

- **MusicFit (GitHub)** Beijing, China
Pervasive HCI Lab, Tsinghua University Apr 2022 - Jun 2022
 - With a Model-View-ViewModel design pattern (**SwiftUI**), this iOS app uses **Core Motion** framework to detect the user's physical behavioral changes (ranging from walking, running to resting).
 - Integrated **Apple Music API** with **Alamofire** framework and implemented a song player that can automatically controls now-playing songs in different playlists based on user's workout motion.
- **FitPal (GitHub)** Beijing, China
Pervasive HCI Lab, Tsinghua University Oct 2021 - Dec 2021
 - With a dedicated **Core ML model** trained through **Create ML**, this watchOS app can start a workout session, automatically record movement counts and store workout results into Apple Health app.
 - Workout tracking functionality is built using Apple **HealthKit** while Watch-faces are built with **Storyboard MVC**.
- **Improve Restaurant Service Efficiency with NFC Chips** Remote
Undergrad Final Year Project Feb 2021 - May 2021
 - **Android Restaurant Ordering App (GitHub):** Used **Realm Kotlin SDK** to implement restaurant table registration, menu fetch, customer ordering and real-time progress viewing. Integrated **PayPal Payments API** to simulate bill payment process.
 - **Web-based Administrative System (GitHub):** For restaurant chefs to view and manage orders. The webapp uses **MongoDB** hosted on **Atlas** as database, and **Django** as framework.

EDUCATION

- **University of Washington** Seattle, WA
Dual Degree II: Master of Science in Technology Innovation Sep. 2022 – Mar. 2024 (Expected)
- **Tsinghua University** Beijing, China
*Dual Degree I: Master of Engineering (Major: **Computer Science**)* Aug. 2021 – Mar. 2024 (Expected)
- **Beijing University of Posts and Telecommunications** Beijing, China
*Bachelor of Science & Engineering (Major: **Internet of Things Eng.**); GPA: 3.72 / 4.00* Sep. 2017 – Jun. 2021