Jiayuan Hong

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EDUCATION

University of Illinois Urbana Champaign   **Urbana, IL**
B.S. in Computer Science and Mathematics GPA: 3.88/4.00   *Aug 2021 - May 2023*

Xidian University (Transferred to UIUC)   **Xian, China**
Major in Computer Science   *Aug 2019 - June 2021*

SKILLS

- **Languages**: JavaScript/TypeScript, Java, Python, C/C++, MySQL, MongoDB, Neo4j, Ocaml
- **Tools**: Spring Boot, REST API, Git, Google GCP, Docker, AWS, Kafka, Redis, PostgreSQL
- **Web Development**: React/React Native, Node.js, Vue.js, Next.js, Express.js, Webpack, Redux

EXPERIENCES

CME Group   **Champaign, IL**
Software Engineer Intern, Innovation Center   *May 2023 - Present*
- Build the CME CAML code repo with tools for sending messages and a buffer between the client's application and **Kafka/PubSub** messaging services. Standardize sending information across platforms and focus on **Present Layer**.
- Individually design a highly efficient and scalable **JSON Schema** Validation Tool for millions of data schema using **Java**, improving the validation process by 17%.
- Develop a comprehensive client Transition Cost Analysis (TCA) suite via **Google GCP**, providing centralized, customizable analytics for all US Treasury trades.
- Design an enterprise-level **REST API** in the CME Group marketplace using **Node.js** handling 2000 requests daily.
- Optimize CME codebase by 10% using a distributed system, configurable thread pool, and **Java** for backend.

University of Illinois Urbana-Champaign   **Urbana, IL**
Database System (CS 411) Course Assistant   *January 2023 - Present*
- Design homework and Machine Problem (MP) using **Python Colab** notebook.
- Hold weekly office hours to assist students one-on-one **debug** their code.
- Use **MySQL**, **MongoDB**, and **Neo4j** to write queries to check students' answers.

Zhejiang Uniview Technologies   **Xian, China**
Backend Developer Intern   *January 2021 - March 2021*
- Implemented Uniview Cloud Service to provide service for professional IP **video surveillance** devices and involved in the comprehensive application of **Spring Boot**, Eureka, Redis, Linux, and distributed systems.
- Solved the **heartbeat mechanism** problem, checked device functionality regularly, and **automated asynchronous login tasks** for offline devices in a poor network environment.
- Designed a suitable **heartbeat packet** in the **application layer** by starting a timer in the program, making the connection more stable and the system more robust.

SELECTED PROJECTS

Apartment Rental App   *September 2022 – Present*
https://github.com/Einsgates/ApartmentRental

- Use **NodeJS** to implement the backend, consuming **Zillow API** to get the information of properties.
- Use **ReactJS** to build the frontend, supports **Google Map** Search and Key Word Search.
- Rank properties by needs and save customers' favorite apartments, using **JWT** for user safety.
- Use **MongoDB** to store the information and provided some user-interaction functions.

WechAt: A Chatting and Selling Products App   *May 2022 – Dec 2022*
https://github.com/Einsgates/WechAt

- Provided a **Full-stack** Platform for users to chat with each other and sell their products.
- Used **Google Cloud** for MySQL and **NodeJS** to implement the Backend functions. Advanced queries like Transaction and Procedure are also used to implement complicated functions.
- Used **VueJS** to implement frontend, including pages like login, account, product, and chat session.