

Jiayuan Hong

508 E Michigan Ave, Urbana, IL, 61801

✉ jh79@illinois.edu

🌐 <https://github.com/Einsgates>

☎ 217-200-0555

EDUCATION

University of Illinois Urbana Champaign

M.S. in Computer Science

Urbana, IL

Graduate Date: May 2025

University of Illinois Urbana Champaign

B.S. in Computer Science and Mathematics GPA: 3.80/4.00

Urbana, IL

Graduate Date: May 2023

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, IL

Course Assistant, Computer Science Department

Jan 2023 - May 2023

- Design the homework assignment and Machine Problem (MP) using **Python Colab** notebook.
- Hold weekly office hours to assist students one-on-one and provide guidance to **debug** their code effectively.
- Use **MySQL**, **MongoDB**, and **Neo4j** to write queries to check and evaluate students' answers.

Zhejiang Uniview Technologies

Xian, China

Software Engineer Intern, Java Backend Team

Jan 2021 - Mar 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

Sep 2022 - Dec 2022

<https://github.com/Einsgates/ApartmentRental>

- Use **Node.js** to implement the backend, consuming **Zillow API** to get the information of properties.
- Use **React.js** to build the frontend, supports **Google Map** Search and Key Word Search.
- Use **MongoDB** to store the information and provided some user-interaction functions.

WechAt: A Chatting and Selling Products App

May 2022 - Oct 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 **Node.js** to implement the Backend functions. Advanced queries like Transaction and Procedure are also used to implement complicated functions.
- Used **Vue.js** to implement frontend, including pages like login, account, product, post, and chat session.