Jiayuan (Jerry) Hong

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EDUCATION

University of Illinois Urbana Champaign
M.S. *in Computer Science* *Expected May 2025*

University of Illinois Urbana Champaign **GPA: 3.8/4.0**
B.S. *in Computer Science and Mathematics* *Graduated May 2023*

Core Courses: High Frequency Trading Tech, Applied Parallel Programming, Computer System Organization (x86), Database System, Algorithms, Numerical Analysis, The Art of Web Programming, System Programming

SKILLS

- **Languages**: Java, Python, C/C++, JavaScript/TypeScript, Go, Ocaml, CUDA
- **Tools**: Spring Boot, REST API, GCP, Docker, AWS, Kafka, Redis, MySQL, MongoDB, BigQuery

PROFESSIONAL EXPERIENCE

CME Group **Chicago, IL**
Incoming Software Engineer Intern, Trading Execution System Team *May 2024 - Aug 2024*

CME Group Research Park **Champaign, IL**
Software Engineer Intern, CME Innovation Center *May 2023 - Aug 2023*

- Designed a high-volatility trading algorithm that accurately detected spikes and trend breakers in the code up competition.
- Developed a configurable middleware using Kafka and Pub/Sub to seamlessly transfer messages between systems and standardize information sharing across platforms, help CME migrate their applications to Google Cloud.
- Used the factory design pattern to abstract the creation of property loaders and refactored the class to isolate individual property loaders that implement a common interface in the code, reducing LOC in Jira Ticket Source.

University of Illinois at Urbana Champaign **Urbana, IL**
Course Assistant, Computer Science Department *Jan 2023 - May 2023*

- Designed homework assignments and used MySQL to write queries to check and evaluate students' answers.
- Conducted weekly office hours to assist students one-on-one and provide guidance to debug their code effectively.

Zhejiang Uniview Technologies **Xian, China**
Software Engineer Intern, Java Backend Team *Jan 2021 - Mar 2021*

- Implemented Uniview Cloud Service, handling 10,000+ IP video surveillance devices, ensuring 99.9% uptime, and achieving 30% faster system response with Eureka, Redis, and distributed systems.
- Boosted system reliability with automated asynchronous login for offline devices in poor networks, reducing downtime by 30% and increasing overall stability by 25%.
- Designed an optimized heartbeat packet in the application layer, reducing server-client communication latency by 30% and achieving a 99.9% uptime for the system, ensuring a stable and robust user experience.

PROJECTS EXPERIENCE

Cryptocurrency Backtesting Platform | ***C++*** *Jan 2024 - Present*
https://github.com/Einsgates/CryptoPulse-Cryptocurrency-Backtesting-Platform

- Developed a comprehensive cryptocurrency backtesting software in C++, simulating trading strategies across exchanges like Binance and Coinbase, using RapidJson and Google Test for data management and testing.
- Engineered a latency analysis feature and a configurable fee structure, enhancing realistic trade simulations with self-matching prevention and advanced order matching engines to accurately reflect market conditions.
- Implemented CI/CD practices using GitLab for continuous integration and deployment, contributing to a flexible platform that supports live and paper trading through direct API connections with major cryptocurrency exchanges.

Memory Allocator | ***C*** *Aug 2023 - Dec 2023*
https://github.com/Einsgates/Memory-Allocator

- Developed a dynamic memory allocation system, implementing linked list to manage memory blocks.
- Retrieve the address of a memory block, coalesce memory blocks, and combine adjacent free blocks to reduce fragmentation and optimize memory usage.
- Achieved 92% time efficiency and 103% memory utilization comparable to the glibc memory allocator.