



Claire Chen

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EDUCATION

University of Illinois, Urbana Champaign

Expected Graduation: May 2027

Computer Science and Mathematics, B.S.

Grade: 4.0/4.0

Relevant Coursework: Advanced Performance Engineering · Distributed Systems · Systems Programming · Computer Architecture · Competitive Algorithmic Programming · Abstract Linear Algebra · Complex Analysis · Real Analysis

EXPERIENCE

IMC Trading *Technology and Trading*

Jan 2025 - Jan 2025

- Computed beta values for quantitative research to assess market risk. Developed hedging-focused trading strategies incorporating beta metrics. Implemented strategies into existing trading systems for execution and evaluation.

CME Group *Software Engineer Intern*

May 2024 - Aug 2024

- Implemented a new feature for the market data simulator NR to allow for realistic market data generation.
- Aggregated CAML-wrapped SBE binary marketdata and encoded/decoded messages with SBE/iLinkBinary protocols to maintain an orderbook and skew marketdata effectively; simulated traders with self prevention ids to place orders in NR.
- Streamed marketdata with **Kafka** and **Cloud Pub/Sub** and handled concurrency with a **ring buffer** to reduce contention.
- Reconciled incoming marketdata by keeping track of TOB orders and variable tick size instruments and increments.
- Utilized **Java** and Spring Boot for backend development, ran Cucumber and Mockito for integration testing and creating Mock servers and gateway endpoints, and **GKE GCP** for **cloud containerization and deployment**.

AMD — Disruption Lab *Software Engineer*

Jan 2024 - May 2024

- Optimized AMD Mic performance by efficiently categorizing and removing unwanted noise leveraging DL algorithms.
- Constructed state-of-the-art audio separation model Sepformer in PyTorch on **AWS Sagemaker** to handle sources of different noise scales then ported PyTorch models into **ONNX** to run on AMD hardware.

A*Star *Software Engineer, Machine Learning Engineer*

Aug 2023 - Jan 2024

- Allowed operators to use natural language to query unstructured information in a knowledge base of financial information.
- Enabled efficient context formation in conversations and the ability to recall past conversations with no context loss by constructing novel knowledge graphs; cross tested loss and accuracy by implementing LLMs for the same task.
- Implemented accurate detection of pages with useful tabular data and PDF parsing by leveraging GPT-4 and **Azure**.

Vision Research Lab @ UCSB *Computer Vision Research Engineer*

Jun 2023 - Aug 2023

- Conducted biomedical image analysis of distinguishing viral pneumonia COVID-19 from other forms of viral pneumonia through deep learning multi-class image classification.
- Innovated novel two layer stacked ensemble method incorporating transfer learning, hyperparameter tuning, image preprocessing, and ensemble learning that achieved 21.37% improved accuracy to baseline ResNet50.

TEACHING AND RESEARCH

CS425 (Distributed Systems) @ UIUC *Course Assistant*

Jan 2025 - Present

- Hosted weekly office hours covering distributed shared memory, file systems, consensus, stream processing, key-value stores, multicast, distributed hash tables, mutual exclusion, and failure detectors, assisting with debugging and optimization.

Parasol Lab @ UIUC *Researcher*

Aug 2024 - Present

- Working under Professor Lawrence Rauchwerger to develop a distributed, open-source **C++** library for robot task and motion planning, optimizing the C++ STL for **parallel** and **distributed** execution. Focusing on enhancing performance and scalability across **multi-core systems**, improving efficiency in complex robotic tasks.

TECHNICAL SKILLS

Languages and Frameworks: C++ · Java · Python · C · Go · MIPS Assembly · SQL · Typescript · Verilog · Spring Boot · React

Development Tools and Platforms: Git · CMake · Kubernetes · Docker · Kafka · RabbitMQ · Maven · JUnit · Mockito

Cloud Tools: GKE/GCP · AWS · Supabase · Firebase · PyTorch · ONNX · Azure · Sagemaker