

# Ziheng (Jack) Chen

+1 312-823-6315 ◇ zihengchen2000@gmail.com ◇ zihengjackchen.com ◇ linkedin.com/in/zihengjackchen/

## Education

**University of Illinois Urbana-Champaign (UIUC)**

Aug 2023 – May 2025

Master of Science in Computer Engineering

GPA: 4.00/4.00

**University of Illinois Urbana-Champaign (UIUC)**

Aug 2019 – May 2023

Bachelor of Science in Computer Engineering, Minor in Mathematics

GPA: 3.99/4.00 (Highest Honor)

**Relevant Coursework** Data Structures, Operating Systems, Distributed Systems, Machine Learning

## Work Experience

**Software Engineer Intern** (co-op), StoneX Group – Chicago, IL

Jan 2023 – June 2023

- Engineered from scratch an evaluation pipeline with pandas to benchmark prototypical commodity price indices
- Quantified the potential profitability of commodity indices generated from 200+ index configurations, surpassed target by 23.3% in 10-year total return and 8.8% in Sharpe Ratio with the top-performing tested index
- Expedited benchmarking processes by parallelizing the execution in Databricks, reducing waiting time by 3,000%
- Created an actively utilized Python script for CI/CD on Azure DevOps to automate Databricks workflow migration from testing to production environments, eliminated manual operations and greatly enhancing overall productivity

**Data Engineer Intern** (co-op), StoneX Group – Chicago, IL

Aug 2022 – Dec 2022

- Researched and deployed a proxy to integrate Okta authentication into an existing cloud application using Docker
- Optimized the data curation ETL pipeline for a data-serving application to cut waiting time by 20 times to 5 seconds
- Developed a real-time usage analysis dashboard in Splunk, featuring dynamic filters for associates and categories

**Data Engineer Intern** (full-time), Ecolab – Saint Paul, MN

May 2022 – Aug 2022

- Profiled global sales history table in Snowflake, identifying 201M invalid rows to enhance data integrity
- Automated SQL query generation through Python and APIs to streamline the evaluation of data quality and usability

## Teaching Experience

**Graduate Teaching Assistant**, University of Illinois Urbana-Champaign (UIUC)

Aug 2023 – Present

- Facilitated discussion sessions on computer science concepts for CS/ECE 374: Introduction to Algorithms
- Conducted weekly office hours of 20+ students to provide individualized guidance and clarification on assignments

## Projects

**Traffic Risk Assessment and Mitigation**, *Autonomous Vehicles, Machine Learning*

Aug 2023 – Dec 2023

- Accelerated experiments by 200% using subprocess in Python to conduct 30,000+ simulated trials in parallel
- Trained Reinforcement Learning Agents in PyTorch utilizing the traffic risk to mitigate 72.7% of accidents

**LLM for Network Configuration**, *Large Language Models, Foundational Models*

Nov 2023 – Dec 2023

- Injected faults into network configurations based on common root causes and validated outcomes with Batfish
- Utilized GPT-4 Turbo to methodically detect and resolve network configuration errors, attaining a 70% accuracy rate without contextual information, and an 85% accuracy rate through in-context learning

**GymLog**, *Web Application, Frontend, Backend, Full-Stack Development*

Oct 2022 – Dec 2022

- Created a responsive cross-platform workout logging web app with React and TypeScript, deployed on Heroku
- Supported user authentication via Firebase to facilitate tracking and deliver personalized recommendations
- Established a MongoDB database for seamless data synchronization, employing Mongoose for frontend integration
- Earned recognition for exemplary prototyping, securing runner-up accolades in class upon project completion

## Skills

**Programming Languages**

Python, C, C++, JavaScript, TypeScript, CSS, SQL, Assembly, CUDA, Bash

**Frameworks and Tools**

Git, Linux, Docker, React, pandas, PyTorch, NumPy, Azure DevOps

**Languages**

English, Chinese (Mandarin)