Steven Qie

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EDUCATION

University of Illinois Urbana-Champaign May 2026
Bachelor of Science (B.S) in Statistics and Computer Science *GPA: 3.94/4.00*
- **Relevant Coursework**: Data Structures, Algorithms, Statistics & Probability, Statistical Modeling, Computer Architecture, System Programming, Cybersecurity Concepts and Practices, Software Design, Database Systems
- **Publications**: Post-Quantum Cryptography (PQC) Network Instrument: Measuring PQC Adoption Rates and Identifying Migration Pathways

EXPERIENCE

HPR(Hyannis Port Research) | *Software Engineering Intern* May 2024 – Aug 2024
- Built a multi-core, low-latency, real-time data streaming platform to stress test HPR's matching engine in C.
- Designed a raw packet decoder and limit order book, capable of 2.7M+ messages/sec with robust error-checking.
- Centralized price handling across system components to ensure exact precision and consistency across protocols
- Boosted overall application performance by 30% by targeting and refactoring code bottlenecks across the program
- Developed and tested complex trading algorithms using a state-machine design to interact with real-time order entry, market data protocols, and adhere to the scheduler's cooperative multitasking rules
- Simulated normal and extreme market scenarios to test the hot & cold zones of the matching engine and validate multiple considerations such as order matching logic, fill/trade execution, and order chains

ATLAS Data Services | *Data Analyst Intern* Aug 2023 – Dec 2023
- Developed tailored reports using Python, SQL, Excel, and Tableau for faculty across various colleges.
- Led a team of 3 individuals in researching and analyzing ethnicity breakdowns for more than 20 US institutions
- Enhanced data accessibility across departments and identified trends for diversity-related policy recommendations.

National Science Foundation CHEST Center | *NSF-REU Intern* June 2023 – Aug 2023
- Conducted research on post-quantum cryptography with a focus on analyzing the CRYSTALS-Kyber algorithm.
- Built call/dependency graphs and a documentation site with Egypt and Doxygen to visualize Kyber's interactions.
- Added support for reusing custom key-pairs and ciphertexts for analysis, with CSV validation/export capabilities
- Designed benchmarks for Kyber's functions, evaluating power and timing performance using RAPL and clock
- Used perf and KCachegrind to analyze and visualize performance of the algorithm's reference and AVX versions

Grainger College of Engineering | *Computer Science Course Assistant* Jan 2023 - May 2023
- Recorded content, homework, and walkthroughs in Java for 800+ students.
- Guided students on foundational computer science concepts like data structures and OOP via the course help site.
- Assisted in the development and testing of an Android Studio based machine project using Google Maps API

PROJECTS AND ACTIVITIES

Illinois Consulting Group | *Consultant* Jan 2023 – May 2024
- Conducted in-depth research and analysis to evaluate market potential, identify customer segments, and make recommendations for product development and marketing strategy for an innovative power bank company, TyFast

Automated Expedia Flight Price Tracker
- Built an automated flight price tracker using Selenium to scrape Expedia that also sends timed email notifications of the top 5 cheapest flights based on users' specified departure, arrival locations, and travel date.

Credit Card Fraud Detection
- Leveraged preprocessing techniques and employed a range of machine learning algorithms, including Logistic Regression, Decision Trees, Random Forest, KNN, and Support Vector Machines, to analyze credit card transactions and effectively pinpoint potential fraud instances

SKILLS AND TOOLS

Languages: Python, C, C++, Java, SQL, R, HTML/CSS/Javascript, React
Tools: Git, Jira/Confluence, Linux, Flask, Tableau, Pandas/numpy/matplotlib, Sklearn, Tensorflow, Web Scraping(Selenium, BeautifulSoup), Socket Programming, MongoDB, CI/CD, Microsoft Office