

# Yanni Zhuang

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## EDUCATION

**University of Illinois Urbana-Champaign**

May 2026

*BS/MCS in Computer Science, Minor in Math*

Relevant Coursework: Algorithms, Machine Learning, Applied Parallel Programming, Communication Networks,

Systems Programming, Computer System Organization, Numerical Analysis, Probability and Statistics

## WORK EXPERIENCE

**Software Engineering Intern**

May 2024 – August 2024

*Modern Treasury*

*New York, NY*

- Designed and implemented new data ingestion infrastructure, achieving a 275x throughput improvement
- Developed new input validation system, resulting in 30x performance gain and enhanced observability
- Employed task pipelining and query batching, minimizing CPU idle time and reducing database load
- Identified and optimized bottlenecks in data ingestion systems by leveraging Datadog traces

**Course Assistant**

August 2023 - Present

*University of Illinois Urbana-Champaign*

*Urbana, IL*

- Integrated cheating detection mechanisms into autograder pipeline, improving plagiarism detection
- Graded homework and assessments efficiently for accuracy and comprehension
- Provided personalized assistance through office hours to 2,500+ students

**Undergraduate Research Assistant**

June 2023 – Present

*Parallel Programming Laboratory*

*Urbana, IL*

- Assisted with development of parallel I/O library for Charm++ to speed up read and write operations by 400%
- Developed distributed data streaming library for high performance computing applications

## ORGANIZATIONS

**Technical Development Lead** | *TypeScript, SvelteKit, NestJS, MongoDB, AWS*

February 2023 – October 2023

*Reflections/Projections Development Team*

- Architected a robust QR Code-based attendance tracking system to track 1,900+ attendees
- Interfaced with AWS S3 to support resume upload, storage, and distribution from attendees to corporate sponsors
- Designed and deployed a responsive schedule component and staff dashboard using Svelte and SvelteKit

**AMD Security Software Engineer** | *PAPI, AMDuProf, Python*

February 2023 – August 2023

*Disruption Lab at Gies*

- Conceptualized a SVM learning model to accurately classify malware and non-malware programs
- Employed tooling such as PAPI and AMDuProf to collect data from various HPCs while running malware

**SpaceShot Avionics Software Developer** | *HTML, TypeScript, three.js*

August 2022 – February 2023

*Illinois Space Society*

- Collaborated on a 5-person team to develop a full-stack rocket rendering application
- Migrated and refreshed the visual designs of portions of the Ground Station Software webapp with Bootstrap

## PROJECTS

**PrairieCal** | *HTML, CSS, JavaScript, React, ExpressJS, MongoDB*

February 2023 – April 2023

- Conceptualized a full-stack application to automatically store PrairieTest exam reservations into calendar services
- Scraped and parsed user's PrairieTest exam scheduling page data into iCal format for cross-platform compatibility
- Implemented authentication through OAuth tokens to ensure integrity of user data

**Chessboard Digitizer** | *Python, NumPy, OpenCV*

March 2022 – November 2022

- Implemented a lens correction algorithm to maximize camera clarity and precision
- Utilized OpenCV to perform piece analysis to track movement and ensure move legality in real time

**Languages/Frameworks:** C++, Java, Python, TypeScript, Ruby on Rails, SQL, ExpressJS, NestJS, Svelte

**Technical Skills:** Git, Docker, Amazon Web Services, RESTful Web Services, PyTorch, OpenCV, MongoDB