

You-Chun (Jonathan) Wang

(217)979-7960 | jonathanwang.jb@gmail.com | [linkedin.com/in/you-chun-wang](https://www.linkedin.com/in/you-chun-wang) | github.com/jonathanwangyc

EDUCATION

University of Illinois Urbana-Champaign

Champaign, IL

Master of Computer Science

Aug. 2024 – Dec. 2025

GPA: 4.00/4.00

Awards: 4th Place, University of Illinois Fall CTF 2024 (cybersecurity competition)

Certifications: AWS Cloud Practitioner, Illinois Leadership Certificate

Relevant Coursework: Computer Security | Computer Networks | High Performance Computing

University of Illinois Urbana-Champaign

Champaign, IL

B.S. in Computer Science & Mathematics with Minor in Statistics

Aug. 2020 – May 2024

GPA: 3.98/4.00 (Campus Honor, Graduated with Highest Distinction)

Relevant Coursework: Distributed Systems | Machine Learning | Parallel Programming

EXPERIENCE

Teaching Assistant

Aug. 2025 – Present

CS 598 - Foundations of Data Curation

Champaign, IL

- Co-developed new course content and mentored semester-long team projects.
- Enhanced student successes by hosting office hours, managing course forum, and facilitating classroom discussions.
- Previous roles: Teaching Assistant, CS 450 Numerical Analysis; Course Assistant, CS 411 Database Systems

Full Stack Developer Intern

Jun. 2025 – Aug. 2025

Ensaras

Champaign, IL

- Programmed anomaly-detection ensemble on TIG telemetry to detect early sensor faults with over 90% accuracy.
- Developed a hybrid digital twin through a calibrated QSDsan process model that ingests live plant data to forecast next-day effluent KPIs, enabling proactive aeration changes.
- Cut duplicate code by 45% and enabled new schedules to ship in 20 minutes by modularizing Celery jobs into reusable, templated tasks.
- Enabled full-suite integration tests and zero-downtime deployments by architecting a production-mirrored staging environment; Optimized cloud spend by 27% and sustained 97% service uptime (AWS, Ansible, Terraform).
- Steered sprint planning via Jira/requirements docs for a five-engineer squad and authored a system-wide onboarding guide that cut ramp-up time from over 10 days to 5 (Agile).

PROJECTS

Distributed Transaction System | *Go, Linux Virtual Machine*

- Architected an ACID-compliant system by coordinating deposits/withdrawals with timestamp-ordering concurrency control, eliminating distributed deadlocks and enforcing serializability.
- Sharded data across nodes, delivering 3× higher throughput than naive global-mutex baseline under stress tests.

Accelerated Off-Diagonal Low-Rank Matrix Multiplication | *CUDA, C++, Python*

- Designed a recursive HODLR algorithm that stored/operated off-diagonal blocks as UV^T decomposition, reducing matrix-vector complexity from $O(n^2)$ to $O(nk \log n)$.
- Achieved 10x speedup compared to dense multiplication by eliminating launch overhead with cuBLAS batched GEMV and minimizing data transfers.

Real-time ADS-B Tracking and Collision Warning System | *JavaScript, Python, Raspberry Pi*

- Orchestrated an open-source ADS-B receiver chain that streams > 300 live flights over the Chicago area into a 3-D CesiumJS globe for instant situational awareness.
- Engineered a CPA-based risk module to shrink worst-case collision checks from $O(n^2)$ to $O(n \log n)$ and hold UI latency under 150 ms; layered an Isolation-Forest filter to strip spoofed signals and eliminate false alerts.

PeopleWeave Project - Caesar Research Group | *Javascript, React, D3.js, Python, Neo4j, Research Assistant*

- Built an interactive SIGCOMM co-authorship explorer that lets users discover author-topic relationships.
- Automated data cleanup to cut ETL by 60%; architected a Neo4j graph store that scaled to 100k+ nodes.

SKILLS

Languages: Python, Go, C/C++, Java, TypeScript, JavaScript, HTML/CSS, R, CUDA, SQL

Frameworks & Libraries: React, Node.js, Express, Django, Flask, Bootstrap, PyTorch, TensorFlow

Databases: MySQL, PostgreSQL, MongoDB, Neo4j, InfluxDB

Developer Tools: Git, Bash, Docker, Linux, Google Cloud Platform, Amazon Web Services, Ansible, Terraform