

Kevin Y. Zhang

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EDUCATION

University of Illinois Urbana-Champaign

Bachelor of Science in Computer Science, Chancellor's Scholar

Champaign-Urbana, IL

August 2023 – December 2026

Relevant Coursework: Data Structures and Algorithms, Computer Architecture, System Programming, Introduction to Algorithms and Models of Computation, Database Systems, Probability and Statistics, Combinatorics, Distributed Systems, Machine Learning, Social and Information Networks

EXPERIENCE

Software Development Intern

Clarity Partners

June 2024 – August 2024

Chicago, IL

- Delivered production full-stack web applications and internal services for multiple client engagements
- Redesigned a client user-search web application in ASP.NET Core MVC (.NET), improving maintainability and increasing SQL Server query performance by 200%, introducing parameterized stored procedures, and consolidating server-side filtering
- Built an internal React admin tool for template-based bulk email campaigns used by up to 20 non-technical staff; implemented template management, message composition, delivery status tracking, and audit logging backed by SQL Server (managed via SQL Server Management Studio)

Full-Stack Software Engineer

Geni

October 2023 – May 2024

Urbana, IL

- Developed adaptive, generative-AI writing exercises for elementary students to personalize practice and feedback; trialed with 40 students at local private school
- Translated teacher feedback into high-fidelity Figma specs for Teacher and Student dashboards, iterating on UX to streamline classroom workflows, then built in TypeScript, React, and Tailwind CSS

PROJECTS & ACTIVITIES

Stackd | React, Supabase, TypeScript, WebSocket, Event Sourcing, Next.js

June 2025 – Present

- Architected a real-time poker platform with a Node/WebSocket gateway and Next.js 14 (App Router, SSR) front end with optimistic UI and debounced real-time updates; protocol-first design using shared TypeScript types
- Implemented an event-sourced game engine (append-only log + snapshots) and a Table-Actor model for authoritative, in-memory state; enables deterministic replays, crash recovery, and fast reconnection
- Managed database migrations and schema evolution in Supabase; instrumented error handling and graceful degradation to keep tables live under transient failures

Verified OCaml ByteCode VM | OCaml, dune/opam, QCheck, Alcotest, Core_bench

September 2025 – Present

- Built a stack-based VM with an independent spec interpreter and static bytecode verifier; used property-based differential testing to prove spec \equiv VM, determinism, and safety across thousands of well-typed programs
- Engineered performance with an array-backed stack and tight opcode dispatch; Core_bench microbenchmarks show clear speedups over the spec interpreter
- Authored small-step semantics and implemented structured control-flow/stack-height checks; shipped a reproducible dune/opam workspace with CI-ready tests

GTO Illini | Vice President, Development Lead, Social Media Manager

September 2024 – Present

- Co-founded the largest poker RSO (300 members) focused on the game theory and strategy of Texas Hold'em

Agri | Next.js, React, MySQL, JOSE

February 2025 – May 2025

- Built a full-stack SSR Next.js app for Database Systems Final Project to track the environmental cost of grocery items with a reusable React/Tailwind UI and interactive Leaflet maps
- Designed MySQL schema and Next.js API endpoints for auth (JOSE), profiles, grocery lists, and location queries

TECHNICAL SKILLS

Languages: Java, Python, C, C#, C++, Go, JavaScript, TypeScript, SQL (PostgreSQL, SQL Server)

Frameworks: React, Next.js, Node.js, Electron.js, ASP.NET Core (.NET), Tailwind CSS

Tools: Git, Docker, Google Cloud Platform, Supabase, Firebase, MongoDB

Libraries: pandas, NumPy, Matplotlib