

KIRTAN PATEL

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[Linkedin](#)

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Software Engineer with strong systems and backend focus, experienced in multithreading, distributed systems, and building scalable APIs. Proven ability to optimize performance, debug low-level issues, and design reliable services.

Languages: C, C++, Python, Java, JavaScript/TypeScript.

Familiar: SQL, Go, Swift, MATLAB, R, F#.

Frameworks: React, React Native, Node.js, FastAPI.

Systems/Backend: Multithreading, Concurrency, Sockets, REST APIs, Memory Management.

Tools: AWS, Docker, Git, GDB, Linux/WSL, Jira, VS Code.

EXPERIENCE

React Native Software Developer Intern — Resilience Inc

November 2025 - Present

- Improved **lesson delivery speed by 30%** by redesigning API request flows, reducing latency under peak traffic.
- Reduced UI render lag by **25%** using memoization, render batching, and enhanced state logic.
- Fixed production crashes by resolving memory leaks and async race conditions, reducing error reports by **40%**.
- Containerized backend services with Docker, improving deployment consistency and reducing setup time.
- Collaborated in Agile sprints with **100% on-time completion** of all assigned engineering tasks.

Teaching Assistant - (MATLAB), (C/C++ Programming)-UIC

August 2024 – Present

- Supported **250+ students**, raising assignment completion by **15%** through structured lab guidance and debugging help.
- Debugged **200+ C/C++ programs**, reducing recurring issues (segfaults, **memory leaks**, **race conditions**) by **40%**.
- Mentored students in algorithms, recursion, debugging strategies, and clean-code design patterns.

PROJECTS

Multithreaded Web Server -Systems Programming(C, Concurrency, Thread Pool) - [MultiThread Web Server](#)

- Developed a **multithreaded** HTTP/1.1 server in **C** using a thread pool and bounded queue, achieving **5x** throughput under concurrent load while preventing thread starvation.
- Added per-**IP** rate **limiting**, routing, and dynamic worker scaling to prevent server overload.

ClusterStore (C++, Python,Sockets) - [ClusterStore](#)

- **Enforced** hash-partitioned distributed KV-store supporting concurrent reads/writes across nodes.
- **Designed** efficient TCP messaging system **reducing** inter-node overhead by **35%**.
- Created Python load-testing tool handling **thousands of requests/sec**, improving throughput by **25%**.
- **Handled node failures** using timeouts and retries to maintain **consistency** under partial outages.

BIOTRACK – Full-Stack Conservation Platform (FastAPI, React, PostgreSQL) - [BioTrack](#)

- Built **20+ REST endpoints**, reducing average response time from **220ms to 130ms (40%)**.
- **Designed** scalable PostgreSQL schema supporting **10k+ records**, with indexed queries improving lookup speed by **45%**.
- Executed **caching** + pagination, reducing redundant DB queries by **40%**.

MindPilot – AI Productivity Assistant (React, Node.js , SQLite) – [MindPilot](#)

- **Implemented** AI-driven task planner improving task clarity and planning efficiency by **70%**.
- Ensured **100% uptime** using offline fallback mode with local caching + SQLite.
- **Reduced** redundant **API** calls by **30%** via optimized request batching and state management.

EDUCATION

University of Illinois at Chicago (UIC) - Chicago,IL

Dean's List (2 semesters)

Bachelor's of Science in Computer Science

Expected May 2026

Related Coursework: Data Structures, Algorithms , Operating Systems , Computer Networks , Database Systems , Distributed Systems , Discrete Mathematics , Systems Design, Systems Programming.

ACHIEVEMENTS AND CERTIFICATIONS

- **JPMorgan Chase** — Software Engineering Virtual Experience. Built **Kafka**-based event **pipeline** using **Spring Boot** and **H2** database.
 [JP Morgan.pdf](#)
- **Cybersecurity Club** – CTF Competitor: Reverse engineering, cryptography, binary exploitation.