Raj Dangi

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Summary

Computer Science undergraduate specializing in distributed systems, AI/ML infrastructure, and backend engineering. Experienced in building fault-tolerant multi-node web stacks, custom LLM tooling with RAG pipelines, and GPT architectures from scratch. First-authored research on high-availability infrastructure accepted for oral presentation at ISDFS 2026.

Education

University of Toledo Toledo, OH
Bachelor of Science in Computer Science Aug 2023 – May 2027
Relevant Coursework: Computer Architecture, Operating Systems, Data Communications, Data Structures (Linear & Non-Linear)

Skills

Languages: Python, C, C++, Java, TypeScript, SQL
Systems & Infrastructure: Linux, Docker, Networking, High-Availability (HA) Systems, Failover Architecture, Git
Backend & Data: PostgreSQL, Supabase, REST APIs, Event-Driven Architecture, State Management
AI / ML: PyTorch, Transformers, Retrieval-Augmented Generation (RAG), LLM Evaluation, Reinforcement Learning

Experience

Software Developer — *Batting Cleanup (Civic-Tech Initiative)* Aug 2025 – Present
- Architected a QR-based Asset Status Reporting System, reducing per-event submission time to under 5 seconds and eliminating manual tracking overhead.
- Instrumented full-stack analytics via PostHog to drive architectural decisions and identify usage bottlenecks.

Amazon DeepRacer Competitor — *University of Toledo* Jan 2025
- Placed Top 5 of 60+ participants by engineering and iterating reward functions for reinforcement learning models on AWS.

Projects

NYXIS — Gamified AI Productivity OS — *PostgreSQL, JS* github.com/rajdangi31/NYXIS
- Engineered a gamified productivity platform with a PostgreSQL backend managing complex behavioral state transitions.
- Implemented event-driven architecture to ensure data integrity and responsive updates during continuous user interaction.

GPT-2 Transformer — From Scratch — *PyTorch, Transformers* github.com/rajdangi31/GPT-2
- Developed a GPT-2 style transformer including multi-head attention, layer normalization, and custom tokenization.
- Built training loops and optimized convergence by resolving gradient stability issues.

Iris — High-Availability Distributed Web Stack — *HAProxy, Linux* github.com/rajdangi31/iris-lamp
- Designed a two-node fault-tolerant LAMP stack with HAProxy-based health-check routing and automated failover.
- Achieved ∼3s failover and ∼5s failback with negligible latency overhead (0.010s vs 0.012s).
- Implemented encrypted overlay networking using Tailscale and automated synchronization via rsync and mysqldump.

TakeAPeek — Social Media Platform — *React, Supabase* github.com/rajdangi31/takeApeek
- Built a full-stack social platform for ephemeral content sharing with React and Supabase.
- Integrated real-time authentication, database management, and push notification services.