Niraj Dhakal

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Summary

Software engineer with production experience building AI-powered systems and full-stack applications. Skilled in Go, React, PostgreSQL, and RAG architecture. Experienced in end-to-end feature ownership from design through deployment.

Skills

Languages: Go, Python, JavaScript/TypeScript, SQL (PostgreSQL), C/C++, HTML/CSS, Swift
Frameworks/Libraries: React, Next.js, Gin, Tailwind CSS, Material-UI, Prisma
Tools & Technologies: Docker, Git, PostgreSQL, pgvector, Firebase, MongoDB, Celery, Selenium, Jest, Jira
Concepts: RAG systems, Vector databases, Multi-user architecture, RESTful APIs, Authentication/Authorization, Agile/Scrum

Education

University of Maryland Baltimore County
Bachelor of Science, Computer Science | GPA: 3.625 | May 2026
Relevant Coursework: Object-Oriented Programming, Data Structures, Software Engineering, Database Systems

Experience

Software Engineering Intern | Dogwood Gaming | *January 2025 - Present*

- Developed an AI-powered marketing platform for game developers featuring competitor analysis, content generation, and multi-platform social media scheduling.
- Built a **React/TypeScript** frontend and a **Go/Gin** backend, implementing **PostgreSQL** database with **sqlc** for queries.
- Integrated a **RAG** system leveraging game documentation and competitor data to deliver context-aware content recommendations with 1–2 second query latency, enabling teams to upload custom knowledge bases and analyze competitor insights.
- Designed and implemented a persistent chat history system from the ground up with group scope authorization, storing conversations in PostgreSQL, and injecting last 3 conversation turns into LLM context window to optimize token usage for CPU only inference constraints.
- Refactored authentication and authorization architecture from localStorage to HTTP-only JWT cookies with secure group + user ID validation to reduce XSS risks and enforce strict access control over user sessions and API endpoints.
- Containerized and deployed application using Docker, integrating Celery task queue for Instagram scraping and social media scheduling with Selenium.

Scrum Master/Developer | Retreiver Proposal Portal | *Fall 2025*

- Developed a full-stack project portal using **Next.js, Prisma, and MongoDB** that connects UMBC students with faculty-led initiatives.
- Built role-based access control for three distinct user types (students, stakeholders, admins), enabling secure project discovery and collaboration.
- Collaborated with faculty stakeholders to define requirements and iterate on features, resulting in the platform being presented to campus leadership as a potential university-wide solution.
- Managed sprint cycles using **Jira**, including backlog prioritization, task decomposition, and progress tracking to ensure timely task completion.

Teaching Assistant | CMSC 201 | *UMBC Fall 2025*

- Hosted weekly labs for 18 students, teaching students about Python and coding fundamentals.
- Held weekly office hours and graded assignments, providing feedback on code quality and logic.

Projects

LocalStream | Real-time Screen Sharing Application | *github*

- Built a peer-to-peer screen sharing platform using WebRTC for media streaming and a Go WebSocket server for signaling, supporting 5+ concurrent cross-device viewers over a local network with HTTPS.
- Implemented thread-safe room management with `sync.RWMutex` to handle concurrent viewer connections and prevent race conditions in shared state.
- Scaled architecture from 1-to-1 to 1-to-many connections, maintaining direct P2P media paths while the server handled signaling only (no media relay).