

Rudra Patel

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EDUCATION

Lewis University | GPA: 3.9/4.0

Romeoville, IL

B.S. Computer Science, Artificial Intelligence Concentration

Expected May 2026

- Relevant Coursework: Data Structures & Algorithms, Software Engineering, Database Systems, Object-Oriented Programming, Artificial Intelligence, Machine Learning, Linear Algebra

EXPERIENCE

Freelance Software Engineer

May 2025 – July 2025

Hometown Liquor

Braceville, IL

- Doubled monthly sales to **\$40,000** by building and deploying a full-stack e-commerce platform for **750+** products using **React, Tailwind, and Firebase**
- Engineered a high-performance **Algolia** search pipeline, achieving **sub-200ms** query latency and cutting database load by **30%**
- Boosted customer conversion by **25%** and product discovery by **40%** by implementing a search-optimized, mobile-first **UX**
- Automated inventory and order management, eliminating stockouts and reducing manual operations by over **80%**

PROJECTS

ExoViz | React, TypeScript, Java, Python, PostgreSQL, Three.js, Docker

October 2025 - Present

- Architecting a full-stack platform to process and visualize **5,000+ NASA exoplanet records**, integrating AI-driven habitability scoring and interactive 3D rendering
- Engineering a 3-service backend (**Spring Boot, Fast API, Redis**) to target a **30%** reduction in database load and **sub-200ms** query times through caching and optimization
- Developing a Scikit-learn ML pipeline to classify planet habitability, targeting **85%+** model accuracy for deployment via a dedicated microservice API
- Building a Three.js visualization engine designed to sustain **60fps performance** using instanced rendering and level-of-detail (LOD) optimizations

QuizMaster | React, JavaScript, Node.js, Tailwind CSS, GCP, Cloud Firestore, Agile

August 2025 - Present

- Cut application load times by over **80%** from (**886ms to 147ms**) by leading a 4-person team in a full-scale architectural refactoring of a **7,000-line** React codebase
- Reduced codebase complexity by **33%** by implementing a unified design system and state management, enabling faster and more consistent feature development
- Enhanced maintainability and scalability by building a service layer architecture, successfully migrating business logic from **40+** components to establish a clear separation of concerns
- Optimized Firebase backend reducing API calls by **83%** and dashboard load times by **6x (less than 5s)** through query batching and intelligent caching

MasterChef Claude | React, Claude API, Tailwind CSS, Firebase, Docker, AWS

Apr. 2025 - May 2025

- Built AI-powered recipe platform using **Claude API, React, Node.js**, delivering custom recipes within **5s** through optimized prompt engineering and async request handling
- Engineered **3-layer** error handling with input validation and real-time feedback ensuring reliable AI responses
- Simplified deployment with Docker containerization, reducing deployment time by **80%** through automated CI/CD pipeline on **AWS** for faster feature releases

TECHNICAL SKILLS

Languages: Python, Java, JavaScript/TypeScript, SQL, HTML/CSS

Frameworks & Libraries: React, Spring Boot, Node.js, Express.js, Tailwind CSS, Scikit-learn

Databases & Caching: PostgreSQL, Firebase, MongoDB, Redis, Database Design

Cloud & DevOps: AWS, Docker, GCP, Azure, CI/CD, GitHub Actions

Tools & Concepts: REST APIs, Microservices, JWT, Agile, Git, Figma, Three.js