

Rudra Patel

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Education

Lewis University, Romeoville IL

Expected: May 2026

Bachelor of Science in Computer Science, Concentration in Artificial Intelligence

GPA: 3.87 / 4.0

- **Relevant Coursework:** Data Structures and Algorithms, Object Oriented Programming, Software Engineering, Artificial Intelligence, Machine Learning, Linear Algebra, Discrete Mathematics

Experience

Hometown Liquor

May 2025 - July 2025

Freelance Software Engineer

Braceville, IL

- Increased monthly revenue by 45% to **\$40,000** by developing and deploying a full-stack e-commerce platform using React, TypeScript, FastAPI, and PostgreSQL for **750+** products
- Raised customer conversion rate by **25%** by designing a mobile-first UX with search-optimized product discovery built on indexed queries achieving **sub-200ms** response times
- Achieved **99.9%** backend reliability by implementing **35+** RESTful FastAPI endpoints with Supabase PostgreSQL, modular routing, input validation, and automated testing
- Reduced database load by **30%** by integrating Zustand-based global state management that eliminated redundant API calls and synchronized cart data in real time

QuizMaster

August 2025 - Present

Lead Developer (Capstone)

Romeoville, IL

- Led 4-person team in refactoring a **30,000-line** production React application, cutting load times by **83%** (886ms to 147ms) and reducing codebase complexity by **33%**
- Optimized Firebase backend reducing API calls by **70%** and dashboard load times by **6x** (under 5 seconds) through query batching and intelligent caching strategies
- Improved scalability by migrating business logic from **40+** components into a modular service layer, accelerating feature development velocity by **40%**

Projects

ExoViz | *React, TypeScript, Java, Python, PostgreSQL, Docker*

October 2025 - Present

- Built a full-stack platform that visualizes **5,000+** NASA exoplanet records with AI-driven habitability scoring and interactive 3D rendering using Three.js
- Designed a 3-service microservices backend using Spring Boot, FastAPI, and Redis to reduce query latency by **70%** and improve database efficiency
- Developed an ML classification pipeline using Scikit-learn to predict planet habitability with **82%** accuracy, deployed as a standalone microservice
- Implemented a Three.js 3D visualization engine achieving **60fps** performance through instanced rendering and level-of-detail optimizations

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

April 2025 - May 2025

- Built an AI-powered recipe platform using Claude API and React that delivers custom recipes within **5 seconds** through optimized prompt engineering and asynchronous request handling
- Implemented 3-layer error handling with input validation and real-time feedback, ensuring **99%** successful API response rate
- Simplified deployment with Docker containers and automated CI/CD pipeline on AWS, reducing deployment time by **80%**

Skills

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

Frameworks: React, Spring Boot, FastAPI, Node.js, Express.js, Tailwind, Bootstrap

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

ML/Data: Scikit-learn, TensorFlow, NumPy, Pandas, Matplotlib, Data Visualization

Databases: PostgreSQL, MongoDB, Redis, Firebase, MySQL

Tools/Concepts: Git, Agile, System Design, REST APIs, Microservices, JWT Authentication