

Rudra Patel

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Education

Lewis University, Romeoville IL <i>Bachelor of Science in Computer Science, Concentration in Artificial Intelligence</i>	Expected: May 2026 GPA: 3.87 / 4.0
<ul style="list-style-type: none">Relevant Coursework: Data Structures and Algorithms, Object Oriented Programming, Software Engineering, Artificial Intelligence, Machine Learning, Linear Algebra, Discrete Mathematics	

Experience

Hometown Liquor <i>React, TypeScript, Python, FastAPI, PostgreSQL, REST APIs, Tailwind, Docker, JWT</i>	May 2025 - Jul 2025
<i>Freelance Software Engineer</i>	<i>Braceville, IL</i>
<ul style="list-style-type: none">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+ productsBoosted customer conversion rate by 25% through mobile-first responsive design and optimized search functionality using PostgreSQL indexed queries achieving sub-200ms response timesBuilt 85+ RESTful API endpoints with FastAPI achieving 99.9% uptime for critical operations (search, cart, checkout) with transactional integrity and comprehensive unit test coverageReduced database load by 30% by implementing Zustand state management to eliminate redundant API calls and secured application with JWT token-based authentication, implementing OAuth 2.0 flows, encrypted password storage, and HTTPS enforcement	
QuizMaster <i>React, JavaScript, Node.js, Tailwind, Google Cloud Platform, Github Actions, Firebase</i>	
<i>Lead Developer (Capstone)</i>	
<ul style="list-style-type: none">Led 4-person team in refactoring a 30,000-line production React application, reducing dashboard load times by 6x and cutting API calls by 83% through Firebase query batching, caching, and service layer architecture across 65+ componentsCut cloud hosting costs by 37% by migrating 35+ Node.js cloud functions to v20 runtime and implementing caching layer that reduced database reads by 80%Accelerated feature development velocity by 40% by extracting business logic from 65+ React components into reusable service modules, improving code maintainability and test coverage by 60%	

Projects

ExoViz <i>React, TypeScript, Java, Spring Boot, Python, FastAPI, PostgreSQL, Redis, Docker, Maven</i>	Nov 2025 - Present
<ul style="list-style-type: none">Engineered interactive data exploration tool processing 5,000+ NASA exoplanet records with ML-powered habitability scoring, enabling researchers to filter and visualize planetary characteristics in real-time 3DDesigned a 3-service microservices backend using Spring Boot, FastAPI, and Redis to reduce query latency by 50% and improve database efficiencyDeveloped an ML classification pipeline using Scikit-learn to predict planet habitability with 82% accuracy, deployed as a standalone microserviceImplemented a Three.js 3D visualization engine achieving 60fps performance through instanced rendering and level-of-detail optimizations	
MasterChef Claude <i>React, Claude API, Tailwind, Firebase, Docker, AWS</i>	
<ul style="list-style-type: none">Built an AI recipe generator integrating Claude API with React frontend, serving personalized recipes in under 5 seconds through optimized prompt engineering and async request handling for dietary restrictions and ingredient preferencesImplemented 3-layer error handling with input validation and real-time feedback, ensuring 99% successful API response rateSimplified 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, Node.js, Express.js, Spring Boot, FastAPI, Tailwind, Bootstrap
Cloud/DevOps: AWS, GCP, Azure, Docker, CI/CD, GitHub Actions, Maven
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/OAuth 2.0, Unit Testing, Security