

# Rudra Patel

(224) 607-9378 | [rudrap26176@gmail.com](mailto:rudrap26176@gmail.com) | [linkedin.com/in/rudrapatel09](https://linkedin.com/in/rudrapatel09) | <https://rudrapatel-website.azurewebsites.net>

## Education

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

## Experience

<b>Hometown Liquor</b>   <i>React, TypeScript, Python, FastAPI, PostgreSQL, REST APIs, Tailwind, Docker, JWT</i>	<b>May 2025 - July 2025</b>
<i>Freelance Software Engineer</i>	<i>Braceville, IL</i>
<ul style="list-style-type: none"><li>Increased monthly revenue by <b>45%</b> to <b>\$40,000</b> by developing and deploying a full-stack e-commerce platform using React, TypeScript, FastAPI, and PostgreSQL for <b>750+</b> products</li><li>Boosted customer conversion rate by <b>25%</b> through mobile-first responsive design and optimized search functionality using PostgreSQL indexed queries achieving <b>sub-200ms</b> response times</li><li>Built <b>35+</b> RESTful API endpoints with FastAPI achieving <b>99.9%</b> uptime for critical operations (search, cart, checkout) with transactional integrity and comprehensive unit test coverage</li><li>Reduced database load by <b>30%</b> 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</li></ul>	
<b>QuizMaster</b>   <i>React, JavaScript, Node.js, Tailwind, Google Cloud Platform, Github Actions, Firebase</i>	
<i>Lead Developer (Capstone)</i>	
<ul style="list-style-type: none"><li>Led 4-person team in refactoring a <b>30,000-line</b> production React application, reducing application bundle by <b>89%</b> (16MB → 1MB) and achieving <b>6x</b> faster dashboard loading through Firebase optimization and asset conversion</li><li>Cut cloud hosting costs by <b>37%</b> by migrating <b>30+</b> Node.js cloud functions to v20 runtime and implementing caching layer that reduced database reads by <b>80%</b></li><li>Accelerated feature development velocity by <b>40%</b> by extracting business logic from <b>40+</b> React components into reusable service modules, improving code maintainability and test coverage</li></ul>	

## Projects

<b>ExoViz</b>   <i>React, TypeScript, Java, Spring Boot, Python, FastAPI, PostgreSQL, Redis, Docker, Maven</i>	<b>October 2025 - Present</b>
<ul style="list-style-type: none"><li>Engineered interactive data exploration tool processing <b>5,000+</b> NASA exoplanet records with ML-powered habitability scoring, enabling researchers to filter and visualize planetary characteristics in real-time 3D</li><li>Designed a 3-service microservices backend using Spring Boot, FastAPI, and Redis to reduce query latency by <b>50%</b> and improve database efficiency</li><li>Developed an ML classification pipeline using Scikit-learn to predict planet habitability with <b>82%</b> accuracy, deployed as a standalone microservice</li><li>Implemented a Three.js 3D visualization engine achieving <b>60fps</b> performance through instanced rendering and level-of-detail optimizations</li></ul>	
<b>MasterChef Claude</b>   <i>React, Claude API, Tailwind, Firebase, Docker, AWS</i>	
<b>April 2025 - May 2025</b>	
<ul style="list-style-type: none"><li>Built an AI recipe generator integrating Claude API with React frontend, serving personalized recipes in under <b>5</b> seconds through optimized prompt engineering and async request handling for dietary restrictions and ingredient preferences</li><li>Implemented 3-layer error handling with input validation and real-time feedback, ensuring <b>99%</b> successful API response rate</li><li>Simplified deployment with Docker containers and automated CI/CD pipeline on AWS, reducing deployment time by <b>80%</b></li></ul>	

## 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