

Rudra Patel

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Education

Lewis University, Romeoville, IL

Bachelor of Science in Computer Science (AI Concentration)

Expected: May 2026

GPA: 3.9 / 4.0

Experience

Hometown Liquor | *React, TypeScript, Python, FastAPI, PostgreSQL, Tailwind, Docker*

May 2025 - Jul 2025

Software Engineer (Contract)

Remote

- Increased monthly revenue by **45%** to **\$40k** by building a full-stack ecommerce platform using React, serving **770+** products
- Developed **90** REST endpoints using FastAPI, and implemented full-text search using PostgreSQL and transactional checkout
- Automated POS inventory sync across a distributed store network, processing **100+ items/batch** via async API and SKU matching, eliminating all manual updates
- Implemented JWT authentication, RBAC, and rate limiting; built an admin dashboard with analytics, bulk pricing/discounts, CRM, and CSV export, managing **770+** products and customer base

QuizMaster | *React, JavaScript, Node.js, Tailwind, Google Cloud Platform, Github Actions, Firebase*

Aug 2025 - Dec 2025

Lead Developer (Capstone) - Led a team of 6 developers using Agile Methodology

Romeoville, IL

- Cut load times from **30+** seconds to **sub-5** seconds by eliminating N+1 query pattern and implementing batch Firebase queries with a caching layer, consolidating **6** API calls to 1 endpoint
- Reduced production bundle by **89% (16.1MB to 1.7MB)**, cut cloud hosting costs by **37%** through asset conversion, and removed **9** unused Firebase Functions, eliminating **26** redundant npm packages
- Migrated core cloud infrastructure from Node.js 16 to Node.js 20 across **17** Firebase Functions, implementing error handling and modern async patterns across **36** cloud functions
- Eliminated **80%** of redundant database reads by restructuring the application's data layer and centralizing state management

Projects

MasterChef | *TypeScript, Java, Spring Boot, AWS S3, CloudWatch, ECS, IAM, RDS, Terraform, PostgreSQL, Ollama*

Dec 2025 - Current

- Built a full-stack AI recipe platform with React and Spring Boot, implementing JWT authentication with access/refresh tokens, an LLM layer with automatic retry logic, and complete tracking of tokens, latency, and cost per generation
- Designed PostgreSQL caching layer for AI responses, achieving **40%** hit rate, cutting redundant AI calls, and delivering **sub-200ms** response times for repeat queries
- Defined AWS infrastructure using Terraform with ECS Fargate, RDS, ALB, and Secrets Manager, with least-privileged IAM and CloudWatch monitoring
- Wrote a **98**-test suite covering unit, integration, API layers, validating authentication, cloud storage, and database persistence

Analytics Pipeline | *React, Node.js, TypeScript, Redis Streams, TimescaleDB, Docker*

Jan 2026

- Built an event processing pipeline handling **2.4M** events in 24 hours, achieving under **10ms** latency and zero message loss
- Reduced dashboard query latency by **55x (1.8s to 33ms)** by precomputing aggregations at 3 time levels (minute/hour/day) and automatic refresh policies, eliminating live computation at query time
- Developed REST API with **5-38ms** response times using caching (**5-10s TTL**), aggregates, and built a React dashboard with auto-refresh polling (**5s** intervals) with visualization across **2.4M+** records

Social Media Sentiment Classifier | *Python, Scikit-learn, TF-IDF, GridSearchCV*

Nov 2025

- Built a sentiment classifier on **241K** posts using Logistic Regression with TF-IDF, achieving **78%** test accuracy
- Performed hyperparameter optimization with GridSearchCV (**192** combinations, 5-fold CV), achieving strong generalization
- Evaluated model robustness across datasets, showing domain alignment impacts performance more than model complexity.

Skills

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

Frameworks & Tools: React, Node.js, Spring Boot, FastAPI, Tailwind, Docker, GitHub Actions, JUnit 5, Jest, Testcontainers

Database & Cloud: PostgreSQL, Redis, Firebase, MySQL, AWS (ECS, RDS, S3, CloudWatch, IAM), GCP, Azure, TimescaleDB

Big Data & ML: Scikit-learn, TensorFlow, PyTorch, Pandas, Spark, Hadoop, LLMs