Jal Patel

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EDUCATION

Arizona State University Expected May 2026
Master of Science in Data Science, Analytics and Engineering (GPA: 3.56/4) *Arizona, United States*

Nirma University June 2024
Bachelor of Technology in Computer Science and Engineering (GPA: 3.2/4) *Gujarat, India*

EXPERIENCE

Software Development Engineer Intern August 2025 – Present
Sentari AI *New York, United States*
- Integrated emotion analysis using Whisper AI and GPT-based custom models, enabling 10+ emotional responses and improving empathy match rate by 21%.
- Refactored React Native components and Flask APIs to enable iOS TestFlight deployment, cutting user-reported crash incidents by 38%.
- Enabled native Apple and Google authentication, raising successful sign-in rates by 27% and reducing user drop-offs during onboarding.
- Delivered subscription billing module within 2-week sprint, contributing to a 15% boost in early revenue from beta testers.

Software Engineering Intern January 2024 – May 2024
Plexusnet Services *Ahmedabad, India*
- Built a full-stack expense tracker using Django REST API and React, improving UI consistency and backend performance.
- Implemented containerized deployment with Docker and CI/CD via GitHub Actions, decreasing manual release errors by 30%.
- Wrote modular, reusable code and tested API endpoints, reducing integration issues by 25%.
- Authored system documentation and diagrams, simplifying handoff and future feature expansion.

Software Engineering Intern June 2023 – July 2023
Vardhan Insys *Ahmedabad, India*
- Developed responsive web pages using PHP/MySQL, boosting average page load speed by 28%.
- Redesigned UI to improve navigation, leading to higher user engagement and a 20% increase in time-on-page.
- Implemented a real-time analytics dashboard to visualize usage trends and user flow patterns.

ACADEMIC PROJECTS

Calmindra: LLM-Powered Mental Health Chatbot May 2025 – Present
Independent Project | link *Tempe, Arizona*
- Initiated a context-aware chatbot that classifies user emotion and generates empathetic replies, covering 10+ emotional states using LLM-based sentiment reasoning.
- Configured a FastAPI backend with Redis session tracking and developed a React Native mobile interface, achieving sub-500ms latency across simulated user flows.
- Integrated Hugging Face classifiers and Zephyr via Ollama, achieving 91% accuracy on emotion-labeled prompt evaluations during offline testing.

Land Use Land Cover Segmentation in Central Phoenix April 2025 - May 2025
Arizona State University | link *Tempe, Arizona*
- Trained a U-Net model on Sentinel-2 imagery for pixel-level land-use segmentation (9 classes), achieving 95.95% accuracy and 92.79% mean IoU.
- Enhanced minority class detection using weighted loss and selective sampling, raising recall for low-frequency classes by 14%.
- Generated georeferenced map simulations and iterative visual outputs to support urban planning analysis and stakeholder validation.

Book Recommender System using User-Based Collaborative Filtering January 2025 – April 2025
Arizona State University | link *Tempe, Arizona*
- Created a user-based collaborative filtering engine using cosine similarity to deliver personalized top-5 book recommendations, which led to a 12% boost in engagement across test groups.
- Engineered a modular pipeline (preprocessing, LIBSVM conversion, scoring, reporting) to improve reproducibility and minimize runtime complexity by 22%.
- Mitigated cold-start issues by refining similarity thresholds, enhancing precision for low-interaction users by 15%.

SKILLS

Languages	Python, C++, JavaScript, SQL, React, Java, Scala
Frameworks	React Native, Flask, FastAPI, TensorFlow, Scikit-learn
DevOps	Docker, CI/CD (GitHub Actions), Redis, Supabase, AWS EC2/ECS
Systems	REST APIs, PostgreSQL, MongoDB, Linux/Unix, Firebase
Certifications	HackerRank Advanced SQL, AWS Cloud Foundation, Stanford ML Specialization