

Ansh Ajay Bhai Shah

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EDUCATION

Pandit Deendayal Energy University, Gandhinagar, GUJ, India

Master of Technology, Data Science

Jun 2024 - Jun 2026

CGPA: 8.45 / 10

Courses: Data engineering and visualization, Optimization and bio-inspired computing, Applied machine learning, Deep Learning and Neural Networks, Big Data and Cloud Computing, MLOps, Graph Neural Networks.

Gandhinagar Institute of Technology, Kalol, GUJ, India

Bachelor of Engineering, Information Technology

Jun 2020 - May 2024

CPI: 8.83 / 10.0

WORK EXPERIENCE

AI Development Intern

Schbang | 6 Months

Jun 2025 – Nov 2025

- AI-Powered Market Intelligence & Consumer Insights System: Built a comprehensive RAG-powered analytics platform using Google Gemini and LLaMA architectures for automated competitor analysis and consumer psychology insights. Implemented two-module system: (1) Competitive Intelligence Engine - processes 60+ competitor ads using advanced prompt engineering, pattern recognition, and strategic frameworks to extract market gaps and purchase psychology insights; (2) Consumer Pain Point Generator - combines multi-source data (Google Reviews, Reddit, Amazon, Quora) with competitor analysis using sophisticated data fusion pipelines and demographic targeting. The technical implementation features robust 3-tier retry logic, Pydantic schema validation, a modular architecture with comprehensive error handling, and production-ready logging systems. Achieved an automated market research pipeline, reducing analysis time from days to minutes while generating 12+ validated strategic insights per execution. Demonstrated expertise in LLM integration, function calling, RAG system design, advanced Python development, and consumer psychology frameworks.
- Video Storyboard Analytics: Developed a system to analyze video ads and identify which storyboard structures (hook → narrative → product demo → CTA) drive higher CTR, retention, and view-through rates. Combined scene-level features (emotion, pacing, product visibility) with audience/segment data and trained ML models to predict engagement. The model achieved ~80% accuracy in distinguishing high- vs. low-performing videos and produced actionable rules like “emotional hook for awareness” and “early product reveal for BOFU.” These insights help video teams optimize sequencing to stop scrolling and boost completion rates by ~8%.
- Frontend (getadvize Platform): Developed responsive Next.js + Tailwind UI for mobile, tablet, and desktop with orientation-aware rendering. | [Website](#)

Freelance Data Scientist

Aashirvad Chemicals — Remote | 5 Months

Oct 2024 – Feb 2025

- Built predictive models to optimize chemical formulations and improve batch yield using Python (pandas, scikit-learn).
- Analyzed production data to identify key variables affecting quality, reducing material waste and variability.
- Automated anomaly detection and reporting pipelines; integrated a Twilio-based alert system for real-time SMS notifications.
- Developed Streamlit dashboards to visualize KPIs and support data-driven decision-making for plant operations.

Data Science Intern

BrainyBeam Technologies Pvt Ltd. | 2 Months

Apr 2024 – May 2024

- Learned Data Science & Machine Learning tools, algorithms, and basic NLP concepts.

PROJECT EXPERIENCE

1. News Sentiment Analyzer

- Developed a full-stack News Sentiment Analyzer with FastAPI backend and Streamlit frontend.
- Extracted, cleaned, and processed live news data using BeautifulSoup, pandas, and news APIs.
- Applied transformer-based NLP models (BERT) for sentiment classification of financial news.
- Implemented text-to-speech (TTS) with gTTS to convert sentiment output into audio.
- Designed modular backend structure (data extraction, TTS, analysis) with RESTful endpoints.
- Used Uvicorn and Pydantic for API deployment and validation; integrated logging & error handling.
- Delivered interactive, real-time results via a user-friendly Streamlit UI.
- Packaged and documented the project for scalable deployment.

2. Ad Creative Analyzer – LLM-Powered Agent for Image & Video Ads

Technologies: Gemini Pro Vision, LLaMA 3, RAG, Python, FastAPI, Pydantic, LangChain, Function Calling, OpenCV

Designed and deployed a multi-modal LLM agent capable of analyzing marketing creatives (images & videos) and delivering 6–7 structured improvement suggestions categorized by effort level (low, medium, high).

- Used Gemini Vision and LLaMA 3 in a hybrid pipeline for robustness across image + text modalities.
- Implemented a RAG system to feed contextual brand tone, platform guidelines, and ad objectives into the agent in real time.
- Built custom function calling APIs with Pydantic schema validation, ensuring structured and safe JSON outputs.
- Developed dynamic retry and response parsing logic (via candidates[].content.parts[]) to eliminate hallucinations and invalid outputs.
- Fine-tuned LLaMA 3 on a proprietary dataset of annotated ad feedback to improve suggestion quality and brand alignment.
- Optimized the agent for latency and token cost, caching brand prompts and enabling zero-shot + few-shot adaptability.
- Deployed locally via FastAPI with a flexible interface for internal creative teams and future product integration.

3. AI WhatsApp Support Bot for E-Commerce Brands

Technologies: n8n, Twilio WhatsApp API, OpenAI (ChatGPT), Google Sheets, Airtable

Built a low-code AI assistant for WhatsApp using n8n and OpenAI, enabling 24/7 smart replies for customer support.

- Integrated Twilio WhatsApp API with webhook triggers to capture messages, phone numbers, and timestamps.
- Routed inputs to ChatGPT with system prompts for domain-specific replies, then returned responses via WhatsApp.
- Handled message formatting with JSON payloads, ensuring clean API calls and error handling.
- Logged chats in Google Sheets/Airtable for lead tracking and support history.
- Added dynamic logic using Switch, Set, and Wait nodes to simulate human-like behavior and personalize responses.

TECHNICAL SKILLS

- **Languages:** Python, Java, R, C, TypeScript, JavaScript (Node.js)
- **Machine Learning & Deep Learning:** Scikit-Learn, PyTorch, TensorFlow, MLflow, Optuna, Ray Tune
- **LLMs & Generative AI:** LangChain, Hugging Face Transformers, Google GenAI SDK, OpenAI API, Gemini API
- **Big Data & Distributed Systems:** Apache Spark, Hadoop, Kafka, Snowflake, Cassandra, Ray
- **Data Engineering & Pipelines:** Apache Airflow, Jenkins, MySQL, MongoDB
- **Cloud & DevOps:** AWS, Azure, Docker, Kubernetes, Prometheus, Grafana
- **APIs & Web Development:** Node.js, Flask, FastAPI, RESTful APIs
- **Automation & Orchestration:** n8n
- **Dashboarding & Visualization:** Power BI, Streamlit, Matplotlib, Seaborn, Plotly