

KEYUR MODI

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EDUCATION

University of Texas at San Antonio • San Antonio, TX

Master of Science in Computer Science • GPA: 4.0 • Expected May 2026

Laxmi Institute of Technology • India

Bachelor of Engineering in Computer Science • GPA: 3.4 • May 2022

EXPERIENCE

Research Assistant & Grader | University of Texas at San Antonio

Jan 2025 – Present

- Accelerated billion-scale geospatial similarity queries by 2x leveraging parallel computing, Apache Spark, and GPU-optimized LSH algorithms for NSF-funded research across digital pathology, solar physics, and GIS applications
- Optimized deep learning training workflows by 25% through TensorFlow, PyTorch, and MLflow implementation, applying transfer learning techniques to process 10M+ polygonal features for tumor diagnosis and skyline.
- Elevated performance of 120+ students by 15% in Data Science and Operating Systems via Python and ML mentorship while automating grading workflows, cutting evaluation time by 40%

Software Engineer | Semmorta Technologies Pvt. Ltd. • India

Aug 2022 – Jun 2024

- Slashed ETL processing time by 40% by architecting scalable pipelines with Python, Apache Airflow, and Great Expectations to transform 10GB+ datasets for Power BI dashboards and predictive analytics
- Engineered full-stack web application with React.js, Node.js, Flask, and MongoDB via Docker/Kubernetes that increased user engagement by 35% and decreased bounce rate by 20% across 5K+ users

Software Engineer Intern | Adit Microsys Pvt. Ltd. • India

Jan 2022 – Jun 2022

- Developed responsive web applications with JavaScript, HTML5, CSS3, and MySQL featuring RESTful APIs and MVC architecture, improving performance by 30% and Executed comprehensive QA testing

PROJECTS

Geospatial Similarity Detection & Polygon Analysis System

- Architected neural network-based similarity detection framework achieving 94% accuracy for digital pathology tumor classification and GIS pattern matching by implementing skyline and ridge-line feature extraction with 91% precision, leveraging KNN, CNN, transfer learning, OpenCV, PostGIS, GDAL, and Geopandas on 500K+ annotated samples

AI Resume Analyzer & Job Matching Platform

- Built serverless NLP application on AWS Lambda processing 5K+ resumes daily with 96% skill extraction accuracy via BERT and spaCy, cutting screening time by 65%

Intelligent RAG Chatbot with LLM Integration

- Engineered retrieval-augmented generation chatbot with LangChain, GPT-4, and ChromaDB achieving 92% accuracy on 10K+ queries through semantic search, FAISS indexing, and prompt engineering

Reversi AI Game Agent

- Developed intelligent game agent with Minimax algorithm and Alpha-Beta pruning in Python, outperforming baseline heuristic agents in 80% of test games through optimized position evaluation

TECHNICAL SKILLS

Languages: Python, Java, C++, JavaScript, SQL, R, TypeScript

Web/APIs: React.js, Node.js, Flask, Django, FastAPI, REST

ML/AI: TensorFlow, PyTorch, Scikit-learn, XGBoost, LightGBM,

APIs, GraphQL, Redux

OpenCV, HuggingFace

Cloud/DevOps: AWS, Azure, Docker, Kubernetes, Jenkins,

LLM/NLP: LangChain, GPT-4, BERT, RAG, Prompt Engineering,

CI/CD, Git, Terraform

Fine-tuning, spaCy, NLTK

Databases: MySQL, PostgreSQL, MongoDB, Redis, ChromaDB,

Data Science: Pandas, NumPy, Matplotlib, Seaborn, Statistical Modeling, Feature Engineering

FAISS, Vector Databases

Tools: Apache Spark, Airflow, MLflow, GDAL, PostGIS, Geopandas, Agile/Scrum

PUBLICATIONS & CERTIFICATIONS

Research Publication: "Building Trustworthy Autonomous AI" (LLM ACIG-00029-2025-03)

AWS Certified Cloud Practitioner • Oracle Generative AI Professional • Oracle Data Science Professional

Microsoft Power BI Data Analyst • Oracle MySQL Database • Oracle DevOps Professional