Poorav Akshay Desai

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EDUCATION

MS in Management Information Systems | Texas A&M University – College Station, TX | GPA: 3.83/4.0 **Aug 2024 – May 2026**
MS in Computer Science & Engineering (AI specialization) | IIIT Delhi – Delhi, India | GPA: 3.75/4.0 **Jul 2019 – Sep 2021**
BS in Computer Engineering | L.D. College of Engineering – Gujarat, India | GPA: 3.90/4.0 **Aug 2014 – May 2018**

WORK EXPERIENCE

Technology Modernization Intern | Kaspar Companies Inc. | Shiner, TX **May 2025 – Jul 2025**

- **Saved ~40 hours of manual work per month** by designing and deploying automation solutions for Finance team, including a digital credit application processing system, using **Python Flask, Celery, Redis, MSSQL, and Azure Dockerized deployment**
- Collaborated with Finance and IT teams to observe workflows, capture pain points, identify inefficiencies, define solution scope, and align stakeholder expectations for impactful automation

Software Engineer | Oracle Cloud Infrastructure | Bengaluru, India **Jul 2021 – Aug 2024**

- **Reduced operational costs by ~30%** by designing and implementing a failure-attribution feature that enabled faster root-cause analysis and self-mitigation across OCI's global deployment automation platform (Shepherd), deployed in ~80 regions
- Built and operated production microservices using **Java (Dropwizard)** and **Oracle DB**, deployed via **Docker** and **Terraform**
- Improved platform resiliency by enabling runtime switching of dependency service stacks, preventing cascading failures and avoiding downtime across large portions of OCI
- Delivered actionable performance insights to leadership by analyzing metrics dashboards and identifying systemic incidents impacting availability and latency in a distributed cloud environment

Artificial Intelligence Intern | Meditab Software India Pvt. Ltd. | Gujarat, India **Jul 2018 – Oct 2018**

- Developed end-to-end **Automatic License Plate Recognition (ALPR)** system for parking management and traffic estimation using **Python** and **TensorFlow**
- Conducted literature review on deep learning–based object detection and segmentation and implemented preprocessing, training, and evaluation pipelines using **OpenCV, Pandas, and NumPy**

PROJECT & RESEARCH

Multimodal Sarcasm Explanation [Paper] [Code] | Graduate Student – LCS2 Lab @ IIIT Delhi **Aug 2020 – Sep 2021**

- Published at **AAAI**, proposing a novel NLP task to generate natural-language explanations that reveal the intended sarcasm in multimodal social media posts (image + text)
- Designed and fine-tuned a **multimodal Transformer-based architecture** combining visual and textual representations, leveraging **VGG-19** for image features and **BART** for text encoding and generation
- Implemented training and evaluation pipelines using **PyTorch** and **HuggingFace**, with data processing via **NumPy** and **Pandas**

DocuChat - Production-Grade RAG-Based Document Chat System **Nov 2025 – Dec 2025**

- Developed a scalable **RAG** pipeline using **FastAPI** and **LangChain**, enabling low-latency conversational AI over private documents
- Engineered a modular backend supporting plug-and-Play **LLM backends (Ollama, OpenAI, Gemini)** and **vector database (Qdrant)**, leveraging Design Patterns to ensure system extensibility
- Architected a fault-tolerant ingestion engine with retry logic and distributed task queues **(Celery, Redis)** to handle high-throughput document ingestion and vector embedding tasks
- Built a modern, responsive frontend with **Next.js** and **Tailwind CSS**, implementing real-time streamed AI responses using the **Vercel AI SDK** for an enhanced user experience

LEADERSHIP & INVOLVEMENT

- CMIS Student Advisory Board Member: worked with faculty leadership to represent student interests, contribute program feedback, and support academic initiatives and events, including the CMIS AI Conference
- Teaching Assistant for Advanced Data Management and Network & Cloud Infrastructure at Texas A&M University: mentored students and graded assignments

SKILLS

Backend & Distributed Systems: Microservices, Distributed Systems, REST APIs, Design Patterns, Asynchronous Programming
AI / ML: LLMs, Retrieval-Augmented Generation (RAG), NLP, Deep Learning, Transformers, CNNs
Languages: Java, Python, C++, SQL, JavaScript
Frameworks & Libraries: LangChain, FastAPI, Flask, Dropwizard, PyTorch, TensorFlow, HuggingFace, Redis, Celery, NumPy, Pandas
Databases: MySQL, MSSQL, Oracle DB, MongoDB, Qdrant (Vector DB)
Cloud / DevOps: AWS, GCP, OCI, Docker, Kubernetes, Terraform, Git, Shell Scripting
Frontend: React, Next.js, Tailwind CSS