Anuj Patel

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PROFILE SUMMARY

- Aspiring Data Scientist with hands-on experience in **machine learning, deep learning**, and data-driven automation. Proficient in developing and deploying **end-to-end ML pipelines** using Python, **Scikit-learn**, **TensorFlow**, and **PyTorch**. Experienced in integrating **OCR, NLP**, and **LLM-based** systems for intelligent data extraction, automation, and insight generation. Successfully built a multi-agent email automation system and contributed to cutting-edge AI projects, including a **Multi-Agent Communication Platform (MCP) and ongoing Agent-to-Agent Automation (A2A) development**.Passionate about applying **AI, predictive modeling,** and MLOps to create scalable, real-world solutions that drive business impact.

EDUCATION

University of Texas at Arlington, Arlington, Texas, U.S | Master's of Science in Computer Science   2025-2027
- **Courses** : Artificial Intelligence, Machine Learning, Cloud Computing, Data Structures

Prestige (PIEMR), RGPV, Indore, MP, India | Bachelor of Technology (Computer Science & Engineering)   2021-2025
- **Courses** : Object-oriented programming and design principles (OOPS), Database, Data Structures, Software Design Patterns.

WORK EXPERIENCE

RinaySoft, Pune, India - Software Developer   June 2024 – June 2025
- Created and delivered **RESTful APIs** for seamless integration between frontend and backend services, enabling data flow and automation.
- Collaborated and optimized **MySQL** database schemas and queries, reducing query execution time by **30%** and ensuring data integrity.
- Managed backend development, including data ingestion, processing, and storage with OCR and LLM-powered extraction pipelines.
- Collaborated with internal **stakeholders** and participated in code reviews with cross-functional team members, demonstrating strong communication skills to build a secure and scalable platform.

Renuka Softec, India - Python Intern   April 2024 – May 2024
- **Revitalized** a legacy press management system using Python, which reduced previous system errors by **20%**
- **Engineered and enhanced backend solutions** with **MySQL integration**, improving **database performance** and reducing query latency.
- Designed and Integrated automated data processing workflows, boosting system efficiency and reducing manual intervention by **40%**.

KEY PROJECTS

TWITTER SENTIMENT ANALYSIS SYSTEM | NLP, Python, Scikit-learn, Logistic Regression, Flask | LINK
- Designed and deployed a scalable **Twitter sentiment analysis pipeline** using **NLP and ML algorithms** to classify tweets into **positive/negative** categories, achieving **~80% accuracy** on real-world data.
- Performed comprehensive **text preprocessing** (tokenization, stop-word removal) and leveraged **CountVectorizer** for robust feature extraction, improving model **interpretability, efficiency, and reliability**.
- Built a user-friendly **Flask web app** for **real-time sentiment predictions** with confidence scores.

AUTOMATED BILL EXTRACTION SYSTEM | OCR, Google Vision API, Streamlit, LangChain, LLMs, Python | LINK
- **Planned and executed** a Streamlit-based application to automate expense bill processing, accurately extracting key details (date, amount, vendor) and reducing manual workload by **70%**.
- **Integrated and Advanced** Google OCR API to improve text recognition accuracy by **30%**, ensuring faster, error-free data extraction.
- Leveraged **LLM-powered** entity recognition (via Hugging Face API) to categorize extracted data with **85% accuracy**

AUTOMATED MULTI-AGENT COMMUNICATION SYSTEM | IN PROGRESS
- Building a system where AI agents can communicate with each other autonomously using an **A2A (agent-to-agent) workflow**.
- Exploring how agents can share context, delegate tasks, and collaborate to produce better decisions and outputs.
- Designing flexible modules for intent routing, message planning, and reasoning to make **agent communication** smoother and more efficient.

TECHNICAL SKILLS

- **Programming Languages**   : C, C++, Python (expertise in backend & AI development)
- **AI & ML**   : Deep Learning, Natural Language Processing (NLP), Computer Vision, Generative AI (LLMs)
- **Cloud Platforms & Deployment** : AWS (EC2, S3, Lambda), Google Cloud Platform, Docker, CI/CD with GitHub Actions
- **Databases**   : MySQL, complex SQL queries (Joins, Subqueries, CTEs), database administration.
- **Software Methodology**   : Agile methodology, Sprint Planning and Execution, Software Development Life cycle (SDLC).
- **Web Development**   : HTML, CSS, JSON, Bootstrap, Selenium, WordPress, REST APIs.
- **Algorithmic Techniques**   : Data Structures, algorithm optimization, efficient coding practices.

PUBLICATION

A Study on Potential of AI in Healthcare Sector   *Feb 2024*
- **Metszet Journal | Key Skills: Artificial Intelligence, Healthcare, Uses of AI in Healthcare**
- Conducted in-depth analysis of various AI technologies and their impact on the healthcare industry.
- 📄 metzet 4303 R.pdf