

# SUNNY RAJ

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## PROFESSIONAL SUMMARY

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AI/ML Engineer focused on building practical, production-ready AI systems. Experienced in developing autonomous agents, retrieval-based AI pipelines, and end-to-end machine learning workflows with strong emphasis on real-world execution and scalability.

## TECHNICAL SKILLS

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**Programming:** Python, SQL

**Machine Learning:** Supervised & Unsupervised Learning, Feature Engineering, Model Evaluation

**Deep Learning:** Neural Networks, CNNs, RNNs, LSTMs, Transformers

**NLP & GenAI:** NLP, Embeddings, Semantic Search, LLMs, RAG, AI Agents, Prompt Engineering

**Frameworks & Tools:** LangChain, n8n

**Databases:** PostgreSQL, Vector Databases

**Deployment:** Docker, CI/CD, API-based Model Serving

## EDUCATION

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**Kamla Nehru Institute of Technology, Sultanpur**

Sep 2023 – Jun 2027

*Bachelor of Technology (B.Tech) CGPA: 8.0*

## PROJECTS

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**Autonomous AI Agent Platform (In Progress)**

Jan 2026 – Present

*LLMs, Agent Systems, Tool Calling, Memory, GenAI*

- Building an autonomous AI agent capable of converting high-level user goals into executable multi-step plans.
- Implemented planner-executor-critic architecture enabling reasoning, task decomposition, and self-correction.
- Designed short-term and long-term memory using embeddings for contextual continuity across tasks.
- Integrating external tools including code execution, file operations, and API calls for real-world task automation.
- Implemented structured logging and execution tracing to monitor agent decisions, failures, and recovery behavior.

**RAG-Based AI Assistant**

Aug 2024 – Sep 2024

*Python, NLP, Embeddings, Vector Search*

- Built a Retrieval-Augmented Generation (RAG) system for accurate, context-aware question answering from audio and video data.
- Developed pipelines for speech-to-text processing, transcript cleaning, and embedding generation.
- Implemented semantic search to retrieve relevant context for improved response accuracy.
- Integrated ingestion, indexing, retrieval, and interactive Q&A into a unified AI workflow.

## POSITION OF RESPONSIBILITY

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Coordinated and managed campus placement operations with recruiters and institutional stakeholders.

Mentored students in resume building, technical interview preparation, and placement readiness.