

# Vedant Agrawal

B.Tech Computer Science Engineering  
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GitHub Profile

LinkedIn Profile

## EDUCATION

### •B.Tech

Sep 2020- Jun 2024

Gyan Ganga Institute of Technology and Sciences, Jabalpur  
CSE With Specialization in Data Science - 8 CGPA

## EXPERIENCE

### •AI/ML Intern

July 2025 - September 2025

AgNext Technologies

Onsite

- Built computer vision workflows for box detection, fruit quality analysis, and contour-based berry segmentation.
- Created clustering and “atom method” approaches for precise object placement in detected regions.
- Expanded AI-powered synthetic data generation software with manual mode, bug fixes, and customization features.

### •Machine Learning Trainer

April 2025 - May 2025

Coding Spoon

Onsite, Contract

- Delivered in-person machine learning workshops and hands-on training sessions for students.
- Taught core ML topics: Python for ML, classification/regression, evaluation metrics, and deep learning basics.
- Mentored 50+ students, focusing on hands-on implementation of ML algorithms.

## PERSONAL PROJECTS

### • Agentic MLOps Pipeline for Breast Cancer Classification

An agentic MLOps system that autonomously manages the lifecycle of a breast cancer classification model.

- Automated end-to-end model monitoring, drift detection, retraining, and redeployment using LangGraph’s stateful workflow architecture.
- Embedded Groq’s LLaMA-3 to drive intelligent decision-making for real-time model evaluation and retraining triggers.
- Boosted model performance by 12% through Optuna-powered hyperparameter tuning, ensuring reproducibility using Scikit-learn and Joblib.

### •AI Agent for Knowledge Augmentation and Refinement

AI agent integrating LLMs (via Groq API) and external tools for real-time knowledge refinement.

- Improved data retrieval accuracy by 15–20% using Retrieval-Augmented Generation (RAG) techniques.
- Integrated ArXiv, Wikipedia, and DuckDuckGo APIs to process over 10,000 tokens efficiently with batch workflows.
- Reduced token overflow errors by 30% through modular architecture and sentence-transformer-based vectorization.

### •Emotional Intelligence Chatbot

AI-driven chatbot that detects emotions and provides personalized responses, with secure user management and chat history.

- Enhanced a LSTM-based Recurrent Neural Network (94% accuracy) for emotion classification using NLTK pre-processing.
- Integrated Groq API for context-aware responses and secured user authentication with MySQL & password hashing.

## TECHNICAL SKILLS AND INTERESTS

**Technologies :** Python, Pandas, NumPy, TensorFlow, Keras, Scikit-learn, LangGraph, FastAPI, Docker.

**Databases:** Relational Database(MySql), VectorDB, FAISS.

**Relevant Coursework:** Convolutional Neural Networks (CNN), NLP, Fine-tuning LLMs, RAG.

**Areas of Interest:** Machine Learning, Generative AI Applications, Autonomous AI Agents.

**Soft Skills:** Self-learning, Presentation, Communication, Leadership, Management.

## ACHIEVEMENTS

### •Founder and Leader, Drama Society

Feb 2022- June 2024

- Founded and led the Drama Society, managing over 50+ members.
- Directed 6+ successful productions with audiences of up to 100+.
- Supervised a team of 54 (43 performers, 11 technicians).
- Fostered a positive and collaborative environment.
- Organized 30+ auditions, 50+ rehearsals, and 6+ productions, ensuring on-time completion.