

Nitya Santhosh

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EDUCATION

VIT Bhopal University

BTech(CSE Health Info), CGPA: 8.80

Bhopal, Madhya Pradesh

Aug 2022 – June 2026

Kendriya Vidhyalaya

Senior Secondary, CBSE XII percentage: 95.2

New Delhi

June 2021

Kendriya Vidhyalaya

Higher Secondary, CBSE X percentage: 92.5

New Delhi

March 2019

TECHNICAL SKILLS

Languages: Python, C++, SQL

Technologies & Frameworks: React.js (basic), HTML, CSS, Node.js (basic), Express.js (basic), MongoDB, TensorFlow, Keras, NLTK, XGBoost, NumPy, Pandas, Matplotlib, GenAI

Tools & Platforms: Power BI, Jupyter Notebook, Git & GitHub, VS Code, Linux, DBMS, Microsoft Azure (beginner)

PROJECTS

COVID-19 Twitter Sentiment Analysis using NLP | Python, NLTK, Tweepy

Sep 2023 – Nov 2023

- Built ML and DL sentiment models analyzing 50k+ tweets across US and Delhi, classifying comments into positive, negative, and neutral categories.
- Automated data extraction and preprocessing pipelines using Tweepy, reducing manual work by 80%.
- Generated word-cloud and sentiment-distribution visuals that surfaced 15+ key topics and highlighted regional sentiment differences.

Diabetic Retinopathy Classification | Python, TensorFlow/Keras, EfficientNetB3

March 2024 – May 2024

- Engineered an EfficientNetB3 classifier for 5-stage diabetic retinopathy (DR) detection using retina images and data augmentation techniques (rotation, zoom, flips), achieving 98.4% accuracy.
- Refined data augmentation and preprocessing workflows, improving validation accuracy by approx. 3% and reducing overfitting.
- Demonstrated clinical applicability by identifying high-risk DR cases with a precision-recall score above 0.92.

Taxi Travel Time Optimization | Python, XGBoost, Genetic Algorithm, Ant Colony Optimization

June 2025

- Trained an XGBoost model for taxi travel-time prediction (MAE: 4.83), using RMSLE-driven hyperparameter tuning for better stability on skewed data.
- Formulated route planning as a TSP variant and solved it using Genetic Algorithms and Ant Colony Optimization, identifying near-optimal routes.
- Improved travel efficiency by generating itineraries that minimized route deviation and reduced driver travel duration.

ACHIEVEMENTS

Semi-Finalist, TATA Elxsi Teliport Season-2

Dec 2024 – Jan 2025

KAVACH- Advanced Drone Security Framework for Preventing Jamming

- Designed secure communication using mutual authentication and AES-256 encryption, blocking unauthorized access attempts.
- Built failsafe systems with cryptographic erasure and RTH logic, cutting connection timeout failures by 50%.
- Integrated RSSI monitoring, FFT analysis, and FHSS, improving interference detection accuracy by 40% in hostile RF environments.

CERTIFICATIONS & TRAININGS

IBM Full Stack Software Developer Professional Certificate course | Coursera

June 2023

Applied Machine Learning in Python | Coursera

Dec 2023

Master's in Data Science | Intellipat

Sept 2024 – Present