

# Nitya Santhosh

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## EDUCATION

### VIT Bhopal University

BTech(CSE Health Info), CGPA: 8.78

Bhopal, Madhya Pradesh

Aug 2022 – Ongoing

### Kendriya Vidhyalaya

Senior Secondary, CBSE XII percentage: 95.2

New Delhi

June 2021

### Kendriya Vidhyalaya

Higher Secondary, CBSE X percentage: 91

New Delhi

March 2019

## PROJECTS

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

Sep 2023 – Nov 2023

- Developed an ML and DL-based algorithm to analyze Twitter comments for sentiment classification (positive, negative, neutral)
- Extracted and processed Twitter data specific to the US and Delhi regions
- Generated visual insights through word clouds and sentiment distribution graphs to illustrate trends and patterns

### Diabetic Retinopathy Classification | Python, TensorFlow/Keras, EfficientNetB3

March 2024 – May 2024

- Developed an EfficientNetB3 model to classify retina images into five categories: Healthy, Mild DR, Moderate DR, Proliferative DR, and Severe DR
- Trained the model over 100 epochs, achieving a high classification accuracy of 98.4 %

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

June 2025

- Predicted taxi travel times using an XGBoost model (MAE: 4.83) with RMSLE as the evaluation metric and optimized hyperparameters
- Framed route planning as a Traveling Salesman Problem and solved it using Genetic and Ant Colony Optimization algorithms
- Improved travel efficiency by identifying near-optimal trip itineraries based on model predictions

## ACHIEVEMENTS

### Semi-Finalist in TATA Elxsi Teliport Season-2

Dec 2024 – Jan 2025

KAVACH- Advanced Drone Security Framework for Preventing Jamming

- Designed and implemented mutual authentication protocols and AES-256 encryption, ensuring highly secure communication and preventing unauthorized access.
- Developed failsafe mechanisms with cryptographic erasure and Return-to-Home (RTH), reducing connection timeout failures by 50 % and enhancing operational reliability.
- Integrated RSSI monitoring, FFT analysis, and FHSS, increasing interference detection accuracy by 40% and achieving exceptional performance in diverse 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

## TECHNICAL SKILLS

**Languages:** Python, C++, SQL, React.js, MongoDB

**Developer Tools:** Git, VS Code, Visual Studio, Jupyter, Power BI, Hadoop

**Technologies & Frameworks:** Computer Networks, DBMS

**Libraries:** pandas, NumPy, Matplotlib

## SOFT SKILLS

**Soft Skills:** Teamwork, Leadership, Communication, Problem solving, Adaptability, Attention to Detail

**Languages:** Hindi, English, Malayalam